



**Colchester**  
VERMONT

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[www.colchestervt.gov](http://www.colchestervt.gov)

March 24, 2016

Christy Witters  
Vt. Department of Environmental Conservation  
Watershed Management Division  
1 National Life Drive, Main 2  
Montpelier, Vermont 05620-3522

Dear Ms. Witters:

In accordance with annual permit reporting requirements and requested updates for additional 2015 Permit programs, please find attached to this cover letter the following reports and supporting documents:

- Town of Colchester's 2015 Annual Report for General Permit 3-9014
- Stormwater Impaired Waters Flow Monitoring – Letter of Intent dated December 23, 2013 and signed Agreement between DEC and MS4 Municipalities
- Expired Permits Within Impaired Watersheds – Letter of Intent dated March 20, 2014 and follow up documents
- Flow Restoration Plan – Excerpt from Draft Sunderland Brook FRP Report prepared by Watershed Consulting Assoc.

Please give me a call at 264-5625 if you require any additional information or have any questions.

Sincerely,

Bryan K. Osborne  
Director of Public Works  
E: [bosborne@colchestervt.gov](mailto:bosborne@colchestervt.gov)  
P: 802.264.5625 | F: 802.264.5503

# Town of Colchester



## 2015 Annual Report for:

**General Permit 3-9014**  
**National Pollutant Discharge Elimination System (NPDES)**  
**Number: VTR040000**  
**For:**  
**Storm Water Discharges From Small Municipal Separate Storm Sewer Systems**  
**(MS4's)**

***Submitted to:***

**Vermont Agency of Natural Resources**  
**Department of Environmental Conservation**  
**Water Quality Division, Storm Water Management Program**  
**103 South Main Street, Building 10 North**  
**Waterbury, Vermont 05671-0408**

***Submitted by:***

**Town of Colchester**  
**P.O. Box 55, 781 Blakely Road**  
**Colchester, Vermont 05446**

***Date Submitted:***

**March 24, 2016**

**TOWN OF COLCHESTER  
GENERAL PERMIT 3-9014  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
NUMBER: VTR040000  
  
2015 ANNUAL REPORT**

**Minimum Measure 1**

**Public Education and Outreach**

The Town of Colchester has participated throughout 2015 in the Regional Storm Water Education Program, (RSEP) along with other MS4 communities from Chittenden County. Activities as identified in the MOU contained in the Town's NOI and application have been successfully completed, and are more specifically outlined in the Chittenden County Regional Storm Water Educational Program, Annual Review: 2015 Program Report and Calendar Year Summary, Prepared by J. Andrews Marketing with assistance from CCRPC.

The Town has also developed a storm water web site, which displays a variety of storm water related information, including the Town's MS4 Permit Plan. The information can be viewed at [www.colchestervt.gov/PublicWorks/Stormwater.shtml](http://www.colchestervt.gov/PublicWorks/Stormwater.shtml).

**Minimum Measure 2**

**Public Involvement and Participation**

1. *Citizen volunteers established to complete stenciling of the storm water structures within the MS4 designated areas.* – The Town of Colchester, working with volunteers from the community, completed an extensive stenciling program during the summer of 2004. Residents from the Hidden Oaks sub-division in Colchester worked with the Department of Public Works to stencil approximately 800, or about 98% of all storm water structures throughout the community. The Department purchased the necessary equipment and materials to perform the work, which was completed primarily through the use of curb markers. Actual stenciling on the pavement was used where no curbs existed. The volunteers included several young children from residential neighborhoods. Training, supervision and a general education on good water resource management was provided by the Town. The efforts received media coverage through the local new papers. This accomplished all of the required work under this activity for years two and three of the permit. In 2006, the last two remaining sub-divisions that had not yet been stenciled were completed by high school students as a school project. Regular inspection accomplished through basin cleaning, street

sweeping and regular travel on the transportation system revealed that only a limited number of curb markers required replacement. These were done by DPW crews as they were identified. However, in 2007 a Cub Scout volunteer did assist the Town with these efforts.

At this point, regular inspections are concluding that many of the markers and stenciling now need to be replaced or updated. To continue addressing this need, the Town has formed a partnership with both the Boy Scouts and Cub Scouts in Colchester. Building on the Boy Scouts of America, "Leave No Trace" program, the partnership intends to work toward annual stenciling of the Town's storm water basins as part of their regular and ongoing curriculum. While stenciling is being done in each neighborhood, other scouts focus on distributing educational materials regarding their efforts as well as other storm water related issues. These materials also serve to direct citizens to the RSEP web site for further information. The Town provides all materials including program training for the scouts. Training materials have included products from RSEP as well as a stenciling training video developed by the Colchester Public Works Department. This video may be viewed on the storm water page of the department's web site. Select; "Education" and then; "Catch Basin Stenciling". The goal is to develop a long term relationship of public involvement and participation, and more importantly, involve younger citizens to more effectively create an improved and sustainable understanding of storm water related issues within our community.

2. *Citizen volunteers established to participate in a stream corridor clean-up day and complete clean-up of Sunderland Brook* – In 2004, the Town of Colchester was able to secure funding through the Chittenden Solid Waste District, under the District's Community Cleanup Fund, to retain a consultant to perform field reconnaissance of the Sunderland Watershed. This effort resulted in the identification and inventorying of nine (9) illegal dumping sites within the watershed. All information was collected in GIS format and mapped for future clean up efforts.

From 2004 – 2006, the Town cleaned up six of the nine sites as described in previous annual reports, much of which involved the use of citizen volunteers. The sites that were cleaned up included sites A-1, A-2, A-3, A-4, J-1 and J-3 as identified in the 2004 field reconnaissance. In 2008, the Town focused on the three remaining dump sites. It was discovered that site J-2 had already been cleaned up and restored by others. The Town with its own forces cleaned up sites A-5 and J-4 using Local Community Implementation Grant funds awarded to the Town by the VDEC. Of the nine sites identified through the 2004 field reconnaissance, all sites have now been cleaned up with volunteer assistance through the first six years of the MS4 Program. Similar to the Town's stenciling program, volunteers in some cases included children supervised by adults, with their efforts published in the local news papers.



3. Citizen Volunteer Green Up Day Activities - The Town has a significant volunteer base who regularly participates in activities aimed at preserving the community's abundant natural resources. For the 20<sup>th</sup> consecutive year, the Commission has organized this event for the community. During Green Up Day, a total of 382 Colchester citizens participated in cleanup activities collecting 5.1 tons of roadside litter (more than any other community in Chittenden County,) 275 tires, and 2 cubic yards of metal.
4. Storm Water Watch Groups established within 100% of the sub-watersheds located within the MS4 designated areas – The Town has previously identified and mapped all eleven sub-watersheds within Colchester. Since inception, the Town has continued to expand the coverage areas and currently has a total of fifteen community volunteers secured to serve on our watershed watch groups. The volunteers live in a total of eleven different sub-watersheds, resulting in 100% coverage. Initial educational materials were provided to each of the volunteers to help them understand the types of conditions that can contribute to water quality problems. Information is periodically sent to them on an as needed basis. Future efforts will include using the existing storm water watch group network to solicit the participation of additional citizens to serve in this capacity.
5. Rain Barrel Workshop. – The Town's seven member Conservation Commission sponsored a Do-it-Yourself Rain Barrel Workshop on April 20<sup>th</sup> in cooperation with the Winooski Natural Resources Conservation District and the Colchester Department of Public Works. In addition to building their own rain barrels for home use, the 12 participants received information on how rain barrels help conserve water, save money and protect waterways.
6. Rain Garden Refresh – The Town's Conservation Commission also participated in a springtime cleanup of the rain garden along the Holy Cross Road bike path. As noted in the 2012 report, the rain garden was designed by local resident and landscape architect Paul Simon and constructed as part of a joint effort by the Commission and Dept. of Public Works. For the cleanup effort, commission members helped cleanup, weed, and refresh plants in the rain garden.
7. Citizen Leaf Collection – On November 7-8, 2015, the Town held a citizen leaf collection weekend. A total of 14 loads in 40 - cubic yard containers, containing 105.79 tons of leaves, were collected and dropped off at Airport Park by residents and then hauled away by the Chittenden Solid Waste District to Green Mountain Compost in Williston to be turned into compost for sale.
8. Care of the Urban Forest Project – Colchester was one of 20 Vermont communities selected to participate in this urban forestry program. The project was offered through the Vermont Urban and Community Forestry Program. Training was conducted this past year maintenance and care of town trees with both volunteers and town staff.

## Minimum Measure 3

### Illicit Discharge Detection and Elimination

1. Update storm water system base map as required – This activity will be an ongoing process for the Town as additional development and associated storm water infrastructure is added. To maintain this database, a three tiered approach has been developed to document 1) existing storm water infrastructure, 2) additional storm water infrastructure added through the Town's maintenance efforts and/or capital improvement projects, and 3) additional storm water infrastructure associated with new development.

**Existing Storm Water Infrastructure** - The Town has been the recipient of a \$1.5 million EPA Demonstration Grant. One of the many activities contained within the scope of work is a comprehensive update of the Town's storm water system mapping. This work is now completed and can be viewed on the Department of Public Work's website at <http://www.colchestervt.gov/210/Storm-Water-Maintenance>.

**Future Town Installed Storm Water Infrastructure** - The Department of Public Works continues to move toward additional in house GIS capabilities. In support of this approach, the Town has added two additional GIS ArcView work stations within the Public Works Department. Under the previously mentioned EPA Demonstration Grant, the Town has recently purchased a software package (VueWorks / Edgesoft) that will provide a GIS based Asset Management Program to further enhance the Town's abilities to perform future mapping updates of its storm water system. Town Highway Staff will be experimenting with the use of an iPad for tracking of catch basin/inlet inspections and repairs. If the project proves successful, staff would like to expand the number of devices and assets tracked.

**Future Developer Installed Storm Water Infrastructure** - The Town has approved amendments to its Sub-division regulations to require that developers provide the Town with as-built information associated with new development, in digital form.

2. Develop and implement an Illicit Discharge Ordinance – The Town has developed and implemented an Illicit Discharge Ordinance. The ordinance regulates the contribution of pollutants to the MS4 from storm water discharges by any user, prohibits illicit connections and discharges to the MS4, and establishes legal authority to carry out the IDDE Plan, including conducting inspections, monitoring, and enforcement procedures to ensure compliance with the ordinance. The ordinance was adopted by the Colchester Select Board on July 26, 2005.

3. Perform inspection of all storm water outfalls within the MS4 designated area, and sample all outfalls with dry weather flows – The Town completed inspections of all permitted outfalls with reporting requirements as identified within the Town’s IDDE Plan, and outfalls identified in an Outfall Reconnaissance Inventory completed for the Town of Colchester, by the Department of Environmental Conservation in March of 2006. A total of 34 storm water outfalls were inspected. Testing included the *E-coli*, use of optical brighteners, as well as testing for pH.
4. Identify any illicit discharges and take the appropriate actions to correct all illicit discharges detected – No illicit discharges were detected as part of the outfall inspections or reported during 2015.
5. Update training for public employees as a part of the Town’s program for Pollution Prevention and Good Housekeeping. – On September 17, 2015, the Colchester Public Works employees received training at the Municipal Employees MS4 Training Workshop held at the Town of Essex Training Center.
6. Provide updated educational materials to the Colchester Community Development Corporation for distribution to the business community – Educational brochures developed for local businesses were distributed through the Town’s Community Development Office. Approximately 130 brochures were provided for distribution.
7. Accomplish additional educational outreach as outlined in Minimum Measure 2 – The Town has accomplished additional educational outreach through the development and implementation of a storm drain stenciling program, stream corridor clean up initiatives, and the establishment of citizen storm water watch groups.
8. Document all actions – The Town has established files to maintain all documents relating to the management of illicit discharges. A complaint system has also been established to receive citizen complaints through a storm water hotline. The hotline is posted on the Town’s web site. There were no calls recorded in 2015.

#### **Minimum Measure 4**

##### **Construction Site Storm Water Runoff Control**

1. Conduct plan review for all land disturbances requiring permits under Planning and Zoning – The Town continues to perform plan review of all projects involving land disturbance as a part of the site plan review process and the issuance of building permits. In 2015, the Town reviewed and issued permits for a total of 447 projects involving land disturbances.

2. Inspect all locally permitted projects causing land disturbance for compliance to local erosion control ordinance, and take appropriate actions, including enforcement for violations. Report any suspected violations to ANR – In 2015, Town inspectors performed 1,425 site visits associated with 477 permitted projects involving land disturbances to ensure compliance to local erosion control ordinances.

## **Minimum Measure 5**

### **Post-Construction Storm Water Management in New Development and Redevelopment.**

1. Conduct development review process for all land disturbances requiring permits and require the appropriate post-construction storm water controls - The Town continues to perform plan review of all projects involving land disturbance as a part of the site plan review process and the issuance of building permits. In 2015, the Town reviewed and issued permits for a total of 447 projects involving land disturbances. Projects were required to conform to the Town's storm water regulations.
2. Attach O&M permit conditions to approvals for all land disturbances that are not taken under public ownership – All permit conditions associated with projects involving land disturbance were included in the approved Findings of Fact and Order approved by the Development Review Board. These documents become the instrument for enforcing the Board's approval.
3. Perform inspection activities as outlined in Section 5-4 and report any suspected violations to the appropriate jurisdiction - In 2015, the Town inspectors performed 1,425 site visits associated with 447 permitted projects involving land disturbances to ensure compliance to local erosion control ordinances.

## **Minimum Measure 6**

### **Pollution Prevention/Good Housekeeping for Municipal Operations**

1. Maintain the improvements and procedures outlined in the MCAP program – On September 19, 2010, John Daly, Environmental Assistance Specialist within the Vermont Department of Environmental Conservation, conducted an inspection of the Town's Public Works Maintenance Facility. The Town is in compliance with each of the Direct Compliance Issues identified in the report. Spent diesel and

gas fuel filters are being disposed of as outlined. The Town discontinued the use of clay absorbents several years ago. The Town has previously tested its sand blast waste for heavy metals with negative results. No changes in procedures or materials have been made since that time. Debris from both street sweeping and catch basin cleaning is currently being stored on site at the maintenance facility. The charges from landfills to accept the material as cover material have become cost prohibitive. Subsequently, the Town has had these materials tested and determined that they can be safely disposed of at alternative sites.

2. Maintain the improvements and procedures outlined in the Multi-Sector General Permit for the Town's Public Works Maintenance Facility – The Town currently understands from the VANR Legal Council that MSGP's are not required for Public Works Garages. The Town has however completed several improvements which would be required under a MSGP if one were required. These include the covering of construction materials such as asphalt, manhole frames and covers, and scrap metal. The sand blasting area has been paved to facilitate the clean up of the waste material after each occurrence. A holding tank has been installed which is connected to the floor drains within the maintenance facility to capture wash water associated with cleaning equipment. The waste water is periodically removed and discharged into the Town's municipal sewer system. Voters of Colchester previously approved bonds to allow improvements to several Town buildings, including \$750,000 for the Public Works maintenance Facility. As a part of this project, a 3,720 square foot cold storage facility has been constructed, allowing much of the Town's equipment and construction materials to be placed under cover. This project also included the replacement of an aging salt storage facility.
3. Maintain operation and maintenance program as identified in Section 6-1 – The maintenance program as identified in Section 6-1 reflects the Town's standard operating procedures and basic maintenance requirements within the community. Current and future budget plans reflect a continuation of these activities.
4. Conduct employee training as specified in Section 6-1c – On September 17, 2015, the Colchester Public Works employees received training at the Municipal Employees MS4 Training Workshop.

## **Additional Requirements for Discharges to Impaired Waters**

### **Attachments:**

1. Chittenden County MS4 Cooperative Flow Monitoring Program
  - a. Letter of intent dated December 23, 2013
  - b. Email regarding Flow Monitoring RFP dated March 16, 2015
  - c. Signed Flow Monitoring Agreement between DEC and Municipalities
2. Plan for Addressing Expired Permits
  - a. Letter of Intent dated March 20, 2014
  - b. Email regarding Expired Permits being added to MS4 Permit dated March 19, 2015
3. Impaired Basin Flow Restoration Plans (FRP)
  - a. Sunderland Brook
    - i. Excerpt from Draft Sunderland Brook Flow Restoration Plan dated July 24, 2015
    - ii. Cover Letter from Town of Essex dated August 25, 2015
  - b. Morehouse Brook
    - i. Preliminary Retrofit Summary Sheets dated July 14, 2015
4. Low Impact Development (LID) Assistance Program for Landowners
  - a. Emails regarding the Town's current programs for educating the public and responding to questions from citizens and developers
  - b. Screenshot of LID link additions for the Stormwater Web Page



## DEPARTMENT OF PUBLIC WORKS

December 23, 2013

**Select Board**

Nadine Scibek  
Marc Landry  
Herb Downing  
Kathrine Niquette  
Tom Mulcahy

**Town Manager**

Dawn Francis

**Director**

Bryan K. Osborne  
(802) 264-5625

**Assistant Director**

Warner Rackley  
(802) 264-5635

**Operations Manager**

Floyd Sheesley  
(802) 264-5621

**Project Manager**

Kevin McAleer  
(802) 264-5639

**Administrative Coordinator**

Robin Parry  
(802) 264-5620

**Fax Number**

(802) 264-5503

Ms. Christy Witters  
Vermont DEC  
Watershed Management Division  
1 National Life Drive  
Montpelier, VT 05620-3522

Dear Ms. Witters

The Chittenden County MS4's will cooperatively pursue a MS4 flow monitoring program in compliance with NPDES General Permit 3-9014 section IV.C.1.(e)(7). Participating communities include Burlington, Colchester, Essex, Essex Junction, Milton, Shelburne, South Burlington, Williston, Winooski, Burlington International Airport, University of Vermont and Vermont Agency of Transportation.

This cooperative effort is for the following streams:

Allen Brook (Williston), Bartlett Brook (South Burlington), Centennial Brook (South Burlington), Englesby Brook (Burlington), Indian Brook (Essex / Essex Jct.), Morehouse Brook (Winooski), Munroe Brook (Shelburne), Potash Brook (South Burlington) and Sunderland Brook (Colchester / Essex /Essex Junction)

Compliance will be gained by flow and precipitation monitoring in one of three ways:

1. Work directly with the Agency of Natural Resources for flow monitoring compliance paid for in a fee simple manner.
2. Contract with the United States Geological Survey (USGS) to install, maintain, and collect data and report for all flow monitoring stations according to the timeline attached (Attachment A).
3. Work with the Chittenden County Regional Planning Commission (CCRPC) as lead agency to oversee a contract to install, maintain, and collect data and report for all flow monitoring stations according to the timeline attached (Attachment A).

Please let me know if you require anything further.

Sincerely,

Bryan K. Osborne  
Director of Public Works

## Attachment A

- January 2, 2014 – The Vermont MS4 communities (hereafter referred to as “the MS4s”) submit a schedule to the Vermont ANR that describes how stream flow monitoring requirements found in the MS4 permit will be met. In order to achieve consistency of results, cost savings, and efficiency in management of the new Stream Flow Monitoring Program (SFMP), the MS4’s will work collaboratively to create and implement a single SFMP consistent with requirements found in the approved MS4 permit.
- March 2014 – Vermont ANR approves the SFMP prepared by the MS4s.
- April – June 2014 – The MS4’s create an MOU that specifies cost sharing and project management for the SFMP. The MS4’s create a scope of work that defines the role and responsibilities of the program manager who will oversee stream monitoring efforts. The MS4s create a scope of work for the contractor who will complete stream monitoring activities and report to the program manager.
- July – August 2014 – The MS4’s release an RFP or otherwise take steps to retain a Program Manager for the SFMP. The MS4’s release an RFP to obtain a contractor who would implement the SFMP.
- September - December 2014 – Municipalities will be working on their FY16 budgets (July 1, 2015 through June 30, 2016) and will include funding for stream flow monitoring based on costs received through the previous RFP process.
- February 2015 – April 2015 – Municipal budgets, including funding for the SFMP, are approved for FY16.
- July 2015 – March 2016 – The program manager and contractor begin work on the SFMP. This includes purchasing equipment, establishing data collection sites, collecting stream cross section data, and performing other tasks as necessary to ensure that successful stream flow monitoring data will be generated starting in the Spring of 2016. The MS4s will hold quarterly meetings to review the progress of the SFMP with the Program Manager.
- April -May 2016 – Installation of stream flow monitoring equipment and collection of stream flow data begins in stormwater impaired streams in Chittenden County.



## Warner Rackley

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**From:** Hastings, Blaine <Blaine.Hastings@state.vt.us>  
**Sent:** Monday, March 16, 2015 3:49 PM  
**To:** C.Sawyer@stalbansvt.com; d.cloud@stalbansvt.com; satplanner@comcast.net; satownmanager@comcast.net; amartin@essex.org; klengineers@comcast.net; bpalaia@town.milton.vt.us; bhoar@willistontown.com; crobinson@shelburnevt.org; Digiammarino, Craig; dpierce@shelburnevt.org; DENNIS@essex.org; doug.campbell@stantec.com; Floyd Sheesley; greg.goyette@stantec.com; HKendrew@btv.aero; jsherrard@willistonvt.org; jcnadeau@winooski.vt.org; Callahan, Jennifer; jim@essexjunction.org; jcolangelo@shelburnevt.org; jon.leinwohl@stantec.com; jrabidoux@sburl.com; Lani.Ravin@uvm.edu; Linda.Seavey@uvm.edu; LSheltra@willistontown.com; mmoir@burlingtonvt.gov; Bryan Osborne; rhunt@town.milton.vt.us; Sarah Hadd; tdipietro@sburl.com; Warner Rackley  
**Cc:** Monks, Padraic; Witters, Christy; Schelley, Emily; Clear, Tim  
**Subject:** Flow Monitoring RFP for Comment  
**Attachments:** MS4 monitoring RFP\_DraftForComment.docx

Hello MS4ers,

We are moving along with the process of setting up the details of the RFP and contracting structure. In lieu of another face-to-face meeting, we are asking that MS4s submit written comments and feedback to the latest draft RFP attached here. This will help to more efficiently collect and assess the differing thoughts of the group, and eventually arrive at an acceptable plan for the group. Your written comments would be appreciated by Friday March 27<sup>th</sup>, with the aim of getting the RFP released in April. We have incorporated comments from the last face-to-face meeting. In order to make this program administratively feasible, the RFP has been written so that this ultimately comes down to a contract for data. Much of the setup costs, equipment purchasing, access agreements, and decommissioning responsibility lies with the selected bidder. This is reflected in the specific deliverables listed on page 2. A thorough QA/QC plan and weighting of demonstrated competence and experience during the selection process will help ensure the data is collected and delivered with the required level of quality.

We also added information as a result of contracting considerations and discussions we've had here at DEC. This includes a structure that establishing a 5-year "umbrella" agreement with a contractor, that describes the work and costs, and memorializes the agreement to do the work, but actual work to be delivered and paid for will be tasked via individual sub-contracts of shorter duration. This more flexible approach enables us to have a formalized agreement before the list of gages and MS4 funding is finalized, upon which we can contract for specific work. The proposed plan is for an initial task order of 3 years, so as to allow the contractors to capitalize setup costs over a long enough period of time, and make it worth their while to acquire equipment and go through the effort to establish the monitoring program. The 3-year contract will come with an option to renew annually for the 4<sup>th</sup> and 5<sup>th</sup> year, after which a new umbrella agreement will have to be established.

An important aspect to this is the timeline of budgeting and commitments (for both MS4s and the contractor). For a variety of reasons it becomes more challenging to establish a program with the moving parts that come with year-to-year funding considerations (as well as year-to-year changes in scope once streams start becoming delisted). So, with your RFP comments we'd also ask each MS4 to comment on their ability to budget and distribute the necessary funds for their gage(s). Specifically:

- To what degree are you able to commit to funding your gage(s) prior to the March, 2016 budget vote?
- Assuming the FY '16-'17 budget is approved, to what degree could you allocate funds prior to July 1, 2016? (i.e. for gage installation & commencement of monitoring)

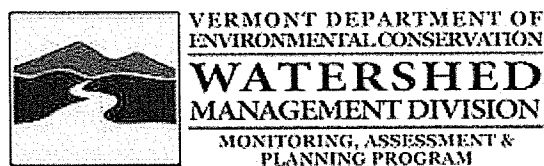
- Are you able to commit/budget beyond year-to-year, allowing for the 3-year task order approach described above?

Knowing the number of gages that will be needed and for how long now, will enable us to move along with the process to ensure monitoring can commence as early as possible in 2016. This additionally has to take into account the signing of an MOU between ANR and each MS4 outlining the funding agreement once the funding is approved, and which requires 30-days of public notice prior to taking effect.

Lastly, we are going to send invites to internal and external subject matter experts to come up with valid and feasible target flow metrics to be used to evaluate progress of flow restoration. Examples might be watershed yield relative to rainfall, lag-to-peak times, flashiness indices, etc. If any of you would like to participate in this workgroup, please let me know.

Thank you for your feedback,

Blaine



**Blaine Hastings, *Hydrologist***

1 National Life Drive, Main 2

Montpelier, VT 05620-3522

802-490-6156 / [Blaine.Hastings@state.vt.us](mailto:Blaine.Hastings@state.vt.us)

[www.watershedmanagement.vt.gov](http://www.watershedmanagement.vt.gov)

Check out *Flow*, the official blog of the WsMD:

<http://vtwatershedblog.com/>

**MEMORANDUM OF AGREEMENT BETWEEN THE VERMONT DEPARTMENT OF  
ENVIRONMENTAL CONSERVATION AND THE LISTED MUNICIPAL SEPARATE STORM  
SEWER SYSTEM (MS4) COMMUNITIES**

This Memorandum of Agreement sets forth the agreement between the parties, Vermont Department of Environmental Conservation (DEC) and the following Municipal Separate Storm Sewer System (MS4) Permittees: Burlington International Airport (BTV), City of Burlington (Burlington), Town of Colchester (Colchester), Village of Essex Junction (Essex Junction), Town of Essex (Essex), Town of Shelburne (Shelburne), City of South Burlington (South Burlington), City of Saint Albans (St. Albans City), Town of Saint Albans (St. Albans Town), University of Vermont (UVM), Vermont Agency of Transportation (VTrans), Town of Williston (Williston), and City of Winooski (Winooski) (collectively referred to as "the Parties"), for the purpose of participating in the Ecosystem Restoration and Water Quality Improvement Special Fund to perform the monitoring and other data collection required under the MS4 permitting program.

**I. PROJECT PURPOSE:**

The purpose of this Agreement, per Act 171 (H.650), Titled: Conservation and land development; stormwater; municipal separate storm sewer systems, is to aid participating MS4 Permittees in obtaining compliance with the flow monitoring requirements of their MS4 permits.

**II. SCOPE OF WORK:**

The parties agree to the following:

DEC will develop and manage a contract with a third party to carry out flow monitoring requirements as outlined in the existing MS4 permits. Upon signature of this Agreement, DEC will work with the undersigned MS4 Permittees and the contractor to ensure the flow monitoring requirements are met. As long as the MS4 Permittee contributes to the Water Quality Improvement Special Fund as outlined in Section V, they will be considered in compliance with the flow monitoring requirement of the MS4 permit. All management of the Contractor and non-compliance due to the Contractor will be the responsibility of DEC and will not result in any violations under the MS4 permit for any MS4 Permittee signed onto this MOU. DEC will provide the deliverables as outlined in section VIII.

The Parties will provide data on existing flow monitoring gauge sites, precipitation gauge sites, and other information considered to be necessary for the Contractor to complete the work. The Parties will provide funds, as agreed to in Section V, in order to initiate the flow monitoring. Failure to provide the funds as specified will be considered as non-compliance

with this Agreement and the Party will be responsible for maintaining compliance with the MS4 flow monitoring requirements through other means.

### III. PROJECT BENEFITS

This project will help to assess the effectiveness of flow restoration plans for up to eleven stormwater impaired streams. Vermont's stormwater Total Maximum Daily Loads (TMDL) utilize flow targets to represent a range of stressors to water quality, from pollutant loads, land based and instream erosion, to increased flooding. Implementation of the flow restoration may take over fifteen years in some watersheds. Flow monitoring will be used by DEC and the Parties to ensure that the management practices implemented under the flow restoration plans are making progress towards the TMDL targets, and redirect efforts if needed.

### IV. ENTITY ELIGIBILITY

The entities eligible to participate under the memorandum of understanding include any entity that is subject to the Vermont Municipal Separate Storm Sewer System (MS4) General Permit, signed on December 12, 2012. This includes the following MS4 Permittees: Burlington, Colchester, Essex, Essex Junction, Milton, Rutland Town, Rutland City, St. Albans City, St. Albans Town, Shelburne, South Burlington, Williston, Winooski, UVM, BTV, and VTrans.

### V. FINANCIAL CONTRIBUTIONS

As developed by the eligible entities, all participating MS4 communities will divide the costs of the contracted work and pay DEC according to the table below.

MS4 Permittee	% of Total Cost	Costs by State Fiscal Years (July 1 – June 30)				
		2017	2018	2019	2020	2021
BTV	2.1%	\$3,623	\$2,805	\$2,796	\$2,087	\$2,140
Burlington	7.4%	\$12,782	\$9,898	\$9,866	\$7,364	\$7,549
Colchester	5.3%	\$9,232	\$7,149	\$7,126	\$5,319	\$5,452
Essex Junction	6.1%	\$10,625	\$8,228	\$8,201	\$6,122	\$6,275
Essex	6.0%	\$10,473	\$8,111	\$8,084	\$6,034	\$6,185
Shelburne	7.0%	\$12,185	\$9,436	\$9,405	\$7,021	\$7,196
South Burlington	17.4%	\$30,170	\$23,363	\$23,287	\$17,383	\$17,818
St. Albans City	6.6%	\$11,418	\$8,842	\$8,813	\$6,579	\$6,743
St. Albans Town	7.1%	\$12,287	\$9,515	\$9,483	\$7,079	\$7,256
UVM	5.5%	\$9,564	\$7,407	\$7,382	\$5,510	\$5,648
VTrans	16.6%	\$28,794	\$22,298	\$22,225	\$16,590	\$17,005
Williston	6.2%	\$10,668	\$8,261	\$8,234	\$6,146	\$6,300
Winooski	6.6%	\$11,363	\$8,799	\$8,770	\$6,547	\$6,711

		Costs by State Fiscal Years (July 1 – June 30)				
MS4 Permittee	% of Total Cost	2017	2018	2019	2020	2021
Total	100.0%	\$173,184	\$134,112	\$133,672	\$99,781	\$102,278

Each participating MS4 Permittee to this agreement is required to submit the payment listed above on or before May 1 each year in order to be considered in compliance with the terms of the agreement for that year. Payments shall be made directly to DEC. If payment is not received in time, monitoring services as provided by the Contractor to the State will be discontinued.

Actual costs are dependent on the finalization of the Contract with the selected Contractor. Fiscal year 2020 and 2021 are anticipated costs based on renewal of the Contract for monitoring services with the selected Contractor.

#### **VI. PROJECT CONTACTS**

##### Parties Contacts

See Attachment A

##### DEC Contact

David Pasco

Admin. and Innovation Division

802-490-6112

[david.pasco@vermont.gov](mailto:david.pasco@vermont.gov)

#### **VII. EFFECTIVE DATE; MODIFICATION**

This Memorandum of Agreement shall be effective from the date of execution and shall terminate on June 30, 2021. This Memorandum of Agreement may be amended or modified at any time by mutual written agreement of all Parties.

This agreement will provide monitoring services for the participating MS4 Permittees from State Fiscal Year 2017 (July 1, 2016) through State Fiscal Year 2021 (June 30, 2021).

#### **VIII. DELIVERABLES**

Each of the Parties will provide the following deliverables to DEC:

1. Data on existing flow monitoring gauge sites, precipitation gauge sites, and other information considered to be necessary for the Contractor to complete the work, as requested.
2. Notification of any changes in the MS4 Communities' participation in this agreement as early as practicable.
3. Payment of funds as outlined in Section V.

DEC will provide the following deliverables to all participating entities:

1. A comprehensive report outlining Quality Assurance/Quality Control protocols, shall be submitted to all participating entities prior to the initiation of monitoring.
2. Mean daily discharge in cubic feet per second at each site for each day of the monitoring period calculated from measurements taken at five minute intervals.
3. A platform for continuous remote access to streamflow gaging station data (i.e., satellite, radio, or cellular telemetry) complete with real-time data loss notification systems.
4. Mean daily depth of precipitation in inches (to the nearest 0.01 inch) at each site for each day of the monitoring period, calculated from measurements taken at five minute intervals and form of precipitation identified (rain vs. snow).
5. An annual report on each impaired stream with the flow duration curve and calculated flow metrics, and a brief narrative describing the preceding field season, gage configuration, and how data was collected and compiled.
6. On an annual basis, compiled sub-daily data, with field notes available upon request.

**WE, THE UNDERSIGNED PARTIES, AGREE TO BE BOUND BY THIS AGREEMENT.**

**STATE OF VERMONT**

**Dept of Environmental Conservation**

**By:**

\_\_\_\_\_

**Commissioner**

**Dept of Environmental Conservation**

**Date:** \_\_\_\_\_

**THE PARTICIPATING PARTIES:**

**BURLINGTON INTERNATIONAL**

**AIRPORT**

**By:**

\_\_\_\_\_

**Title:** \_\_\_\_\_

**Burlington International Airport**

**Date:** \_\_\_\_\_

**WE, THE UNDERSIGNED PARTIES, AGREE TO BE BOUND BY THIS AGREEMENT.**

**STATE OF VERMONT**

**Dept of Environmental Conservation**

**By:**

\_\_\_\_\_

**Commissioner**

**Dept of Environmental Conservation**

**Date:** \_\_\_\_\_

**THE PARTICIPATING PARTIES:**

**CITY OF BURLINGTON**

**By:**

\_\_\_\_\_

**Title:** \_\_\_\_\_

**City of Burlington**

**Date:** \_\_\_\_\_



WE, THE UNDERSIGNED PARTIES, AGREE TO BE BOUND BY THIS AGREEMENT.

STATE OF VERMONT

Dept of Environmental Conservation

By: \_\_\_\_\_

Commissioner

Dept of Environmental Conservation

Date: \_\_\_\_\_

THE PARTICIPATING PARTIES:

TOWN OF COLCHESTER

By: \_\_\_\_\_

Title: \_\_\_\_\_

Town of Colchester

Date: 3/21/16



## DEPARTMENT OF PUBLIC WORKS

March 20, 2014

**Select Board**

Nadine Scibek  
Marc Landry  
Herb Downing  
Kathrine Niquette  
Tom Mulcahy

**Town Manager**

Dawn Francis

**Director**

Bryan K. Osborne  
(802) 264-5625

**Assistant Director**

Warner Rackley  
(802) 264-5635

**Operations Manager**

Floyd Sheesley  
(802) 264-5621

**Project Manager**

Kevin McAleer  
(802) 264-5639

**Administrative Coordinator**

Robin Parry  
(802) 264-5620

**Fax Number**

(802) 264-5503

Ms. Christy Witters  
Vermont DEC  
Watershed Management Division  
1 National Life Drive  
Montpelier, VT 05620-3522

Dear Ms. Witters

The NPDES General Permit 3-9014 issued to the Town of Colchester requires that the municipality ... "submit to the Secretary (of the Agency of Environmental Conservation) for approval a plan for addressing expired State stormwater permits discharging to the permittee's MS4 system."

The Town of Colchester has reviewed the list provided by the Agency of Environmental Conservation for expired permits discharging to impaired streams within the system. Of the seven individual projects listed, we found that the following four projects would need to be incorporated into the Town's MS4 Permit:

Permit 1-0052 - Eagle Park Subdivision  
Permit 1-0674 - Shepard/Gardner Subdivision (Wall Street)  
Permit 1-0959 - Hidden Oaks Extension  
Permit 2-1165 - Hidden Oaks Subdivision

Due to the age of the above developments, it was determined that almost all stormwater management facilities were located within publicly maintained streets. It was also determined that no single entity or home owners association (HOA) existed for any to the above developments. Therefore, it was determined that the best course of action was simply to incorporate these permits into the Town's system.

As for the remaining three expired permits, it was determined that all impervious surfaces and associated treatment facilities were on private property and currently maintained by private corporations and/or HOA groups. It was also determined that the associated discharges flowed directly to the impaired stream without commingling with MS4 flows. These three project areas were as follows:

Permit 1-0609 - Westbury Mobile Home Park  
Permit 2-0762 - Wells Townhome Apartments  
Permit 2-0843 - Meadowood Townhomes (Pheasant Woods)


Based on the above findings, the best course of action for the Town was determined to be referral to the State for application of their Residual Designation Authority (RDA.) Prior to referral, the Dept. of Public Works did reach out to all three projects by contact of association members, management groups, and/or consulting agents. Meetings were held at Town Hall with each group individually to inform them of potential pending requirements. In response to questions

received during these meetings, contact was made with your office in January of this year. Based on those conversations and email correspondence, it is our understanding that the above three expired permits have been added to the Agency's list for RDA application.

Regarding the incorporation of the first four permits into the Town's MS4 Permit, it is our understanding that the process and paperwork for this procedure is still under development and review. Once the procedures have been finalized, the Town fully intends on performing the necessary transfers including fulfilling the associated maintenance and reporting requirements.

Please let me know if you require anything further.

Sincerely,

  
Warner C. Rackley, PE  
Asst. Director of Public Works/Town Engineer

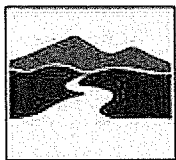
## Warner Rackley

---

**From:** Schelley, Emily <Emily.Schelley@state.vt.us>  
**Sent:** Thursday, March 19, 2015 10:06 AM  
**To:** Warner Rackley  
**Subject:** RE: Reporting for Expired Permits

Hi Warner,

I think you can go ahead and use the normal inspection form. We don't yet have a process for officially transferring these permits to under the MS4 authorization just yet, so they are still technically individual permits. I think your proposal for the Eagle Park inspections sounds fine, and we'll put a note in our records as to the relationship between the two inspections.



VERMONT DEPARTMENT OF  
ENVIRONMENTAL CONSERVATION

**WATERSHED  
MANAGEMENT DIVISION**

STORMWATER PROGRAM

**Emily Schelley, Environmental Analyst, Stormwater Section**

1 National Life Drive, Main 2

Montpelier, VT 05620-3522

802-490-6172 / [Emily.Schelley@state.vt.us](mailto:Emily.Schelley@state.vt.us)

[www.watershedmanagement.vt.gov](http://www.watershedmanagement.vt.gov)

---

**From:** Warner Rackley [<mailto:WRackley@colchestervt.gov>]

**Sent:** Thursday, March 19, 2015 9:24 AM

**To:** Schelley, Emily

**Subject:** Reporting for Expired Permits

Emily,

Now that the FRP report for Sunderland is getting close, it looks like the four permit areas that we will be incorporating into our system will not be at the top of the list for potential projects. Since it looks like these permit areas will need to be included with either our annual MS4 permit report or the usual post springtime reports for general and individual permit sites, I was wondering what format or special forms would need to be provided for these areas. Should we just provide the usual inspection report and system map referencing the expired number or are there other forms that need to be provided?

For one of these areas, the Eagle Park Development has a more recent Individual permit for an offset project that we already report on. I believe the bulk of the runoff flows to the offset with only a couple of CBs and a cross culvert that by-passes upstream water going around the offset. I'm assuming that the reports should not overlap. Should what we report on for the expired permit only include the bypass areas not covered by the current permit?

FYI – the four permit areas that we were taking in were as follows:

1-0052 – Eagle Park

1-0674 – Wall Street

1-0959 – Hidden Oaks 2

2-1165 – Hidden Oaks 1

Thanks,



**Warner C. Rackley, PE**  
Asst. Public Works Dir./Town Engineer

Town of Colchester  
781 Blakely Rd. | P.O. Box 55  
Colchester, Vermont 05446  
P: 802.264.5635 | F: 802.264.5503

[colchestervt.gov](http://colchestervt.gov)

*Notice – Under Vermont's Public Records Act, all e-mail, e-mail attachments as well as paper copies of documents received or prepared for use in matters concerning Town business, concerning a Town official or staff, or containing information relating to town business are likely to be regarded as public records which may be inspected by any person upon request, unless otherwise made confidential by law. If you have received this message in error, please notify us immediately by return email. Thank you for your cooperation.*



# SUNDERLAND BROOK FLOW RESTORATION PLAN

MS4 General Permit Requirement (IV.C.1)

July 24th, 2015

**Prepared for:**  
Town of Essex,  
81 Main St.  
Essex Junction, VT 05452



**Prepared by:**  
Watershed Consulting Associates, LLC  
P: 802.497.2367  
andres@watershedca.com



In Partnership with:

*Town of Essex, VT  
Village of Essex  
Junction, VT*

*Town of Colchester, VT  
Vermont Department of  
Transportation*



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## **I. Disclaimer**

The intent of this plan is to present the data collected, evaluations, analysis, designs, and cost estimates for the Sunderland Brook Flow Restoration Plan (FRP) Project, completed under a contract between the Town of Essex and the hired consultant team, Watershed Consulting Associates, LLC and Aldrich & Elliott, PC. The Sunderland Brook FRP was prepared to meet the compliance requirement for the Sunderland Brook impervious surface owners, including the Town of Essex, Village of Essex Junction, Town of Colchester, University of Vermont, and the Vermont Agency of Transportation (VTRANS) under the National Pollutant Discharge Elimination System (NPDES) General Permit 3-9014 (VTDEC 2012) for stormwater discharges to impaired waters. The presented plan is in draft form, and will be revised by the Town of Essex and MS4 partners, as needed. **At this time, the MS4s are not bound in any way to the proposed BMP list.**

## 1 Executive Summary

Watershed Consulting Associates, LLC, and partners Aldrich and Elliott, PC (A+E) were commissioned to develop the following Flow Restoration Plan (FRP) for the Sunderland Brook watershed under contract with the Town of Essex, in partnership with the Village of Essex Junction, Town of Colchester, University of Vermont (UVM), and the Vermont Department of Transportation (VTRANS). The plan was developed in accordance with the MS4 General Permit #3-9014 Subpart IV.C.1 as a part of the participating MS4's Stormwater Management Program (SWMP). The purpose of the FRP is to provide a planning tool for the MS4 entities to implement stormwater Best Management Practices (BMP's) over a twenty (20) year timeframe, in an effort to return Sunderland Brook to its attainment condition.

As a part of the FRP development, an assessment was completed to determine to what extent current stormwater controls have reduced high flows (flows occurring less than 0.3% of the time) from the pre-2002 condition, as required by the Sunderland Brook Total Maximum Daily Load (TMDL) for stormwater. The Vermont Best Management Practice Decision Support System (BMPDSS) model, a GIS-based hydrologic model used to assess the impact of various stormwater Best Management Practice (BMP) scenarios, was used for the assessment. Several revisions to existing BMP drainage areas and BMP design configurations were identified during field inspections and accounted for in the revised models. After the existing model scenarios were reviewed, new BMPs were identified, inspected, and assessed in the BMPDSS.

According to the review completed under this contract, Sunderland Brook is currently meeting its attainment condition with a considerable factor of safety. The MS4's **do not need to implement any new stormwater controls under the MS4 permit requirement IV.C.1.** Therefore, the FRP prepared under this contract provides the MS4 entities a list of possible projects, in the event future biomonitoring of the stream reveals non-compliance with the Vermont Water Quality standards, but there is no requirement to implement any of the projects at this time.

The final evaluated BMP list includes 7 sites—three (3) new infiltration basins, three (3) new underground retention chamber systems, and one (1) green stormwater infrastructure (GSI) practice. The proposed BMPs were assessed with the BMPDSS model, and determined to provide a -17.85% reduction in the high-flow which addresses 482% of the TMDL high-flow target (Q0.3%), through reduction of runoff from the 1-year Design storm. While not an actionable target, the low-flow (baseflow) was estimated to increase by 8.33%, which addresses 231% of the low-flow target. The planning level total cost for implementation of the proposed projects is \$2,072,800.

The proposed projects were ranked using a comprehensive matrix. Four (4) projects were selected from the top ranked projects for 30% engineering including 1) an infiltration basin at the VTRANS garage along Tracy Rd, 2) an underground storage chamber system at Fort Ethan Allen, 3) runoff mitigation from Outfall 31 with an infiltration gallery, located at 6 Morse Dr. and 4) an infiltration basin in the ROW at 292 Morse Dr. to manage runoff to Outfall 199. Itemized planning

level cost estimates were developed for the top two (2) projects, while a spreadsheet cost calculator was used for all other cost estimates. Sketch plans were developed for all other proposed BMPs.

## **2 Background**

Sunderland Brook is currently on the State of Vermont's impaired waters EPA 303(d) list with the primary pollutant determined to be stormwater runoff. In the effort to restore Sunderland Brook and lift its impaired designation, a flow-based Total Maximum Daily Load (TMDL) was developed for Sunderland Brook. This TMDL outlines required reductions in stormwater high flows and an increase in baseflow. The flow targets are the basis for the FRP, developed in accordance with the Municipal Separate Storm Sewer (MS4) General Permit Subpart IV.C.1 as a required part of the MS4s Stormwater Management Program (SWMP).

The purpose of the FRP is to outline a plan for the retrofit of existing impervious cover with stormwater management BMPs (e.g. detention basins, bioretention filters, etc.) to meet the TMDL flow targets. The TMDL set forth that watershed hydrology must be controlled in the Sunderland Brook Watershed to reduce high flow discharges and increase base flow in order to restore degraded water quality and achieve compliance with the Vermont Water Quality Standards (VWQS). Components of the FRP, as outlined in the MS4 general permit include the identification of retrofits to existing BMPs with expired State stormwater permits, new BMP controls, a construction and design (C&D) schedule, a financial plan, and a regulatory analysis.

The four MS4's contributing impervious cover runoff to Sunderland Brook, including the Town of Essex, Village of Essex Junction, Town of Colchester, and the Vermont Agency of Transportation (VTRANS) agreed to prepare a joint FRP for the watershed, with consideration of the individual MS4s flow-target allocation based on impervious ownership. The University of Vermont owns land at the Fort Ethan Allen. However, the University of Vermont is a non-traditional MS4 and therefore VT DEC did not consider UVM to be a jurisdictional MS4 within the Sunderland Brook watershed, and is not included as a contributing MS4 to the Sunderland Brook TMDL.

### **2.1 TMDL Flow Targets**

Vermont developed TMDLs for impaired watersheds using flow as a surrogate for pollutant loading. The basis for the TMDL development was the comparison of modeled Flow Duration Curves (FDCs) between impaired and attainment watersheds. The Program for Predicting Polluting Particles Passage through Pits, Puddles, and Ponds, Urban Catchment Model (P8) was used to model gauged and ungauged watersheds in Vermont and develop Flow Duration Curves (FDCs) from which a normalized high flow and low flow per drainage area in square miles (cfs/sqmi) were extracted. An FDC is a curve displaying the percentage of time during a period that flow exceeds a certain value, with the "low" flow represented by the 95<sup>th</sup> percentile ( $Q_{95\%}$ ) of the curve and the "high" flow represented by the 5<sup>th</sup> percentile ( $Q_{0.3\%}$ ). The high and low flow values from the FDCs were then compared between "impaired" watersheds and comparable

“attainment” watersheds to determine a percent change (i.e. reduction of high flow, increase of low flow). The percent change was reported in the Environmental Protection Agency (EPA) approved TMDL for each impaired watershed.

The high-flow ( $Q_{0.3\%}$ ) was determined to be relatively equivalent to the 1-year Design storm flow. Therefore BMPs designed to meet the State of Vermont Stormwater Management Manual’s Channel Protection volume ( $CP_v$ ) Storage standard were used to address the required high-flow reduction target.

## Future Growth

The VT DEC added a future growth factor to the TMDL flow targets to account for future non-jurisdictional impervious growth. Non-jurisdictional growth was defined as impervious area that is not subject to a state stormwater permit and is therefore not managed by a state permitted stormwater BMP. This type of growth is typical of a small project, which involves the addition of new impervious below the state threshold of 1 acre. This future growth factor was developed under the assumption that no local zoning or land use rules would be in place to require stormwater management for smaller projects. VT DEC used a future non-jurisdictional growth estimate of 8 acres, provided to VT DEC based on local development and projected growth. Documentation for this estimate was not provided to VT DEC.

To develop the TMDL target with future growth, the estimated future impervious growth (8 acres) was added to the watershed’s existing impervious cover, to simulate the watershed conditions at the end of the FRP implementation timeframe (20 years), which at the time was projected to be 2025. With the projected non-jurisdictional future growth, the high-flow target reduction changed by -0.2% and the low-flow target was not changed (Table 1). The approved TMDL flow targets are as follows:

**Table 1: TMDL Flow Restoration Targets**

Flow Target	Target High Flow $Q_{0.3}$ (%) Reduction <sup>1</sup>	Target Low Flow $Q_{95}$ (%) Increase <sup>2</sup>
TMDL Targets (Stormwater allocation only)	-3.5%	3.6%
TMDL Targets with 8 acres of Non-Jurisdictional Future Growth	-3.7%	3.6%
<sup>1</sup> The High Flow target is negative (-), indicating there needs to be a reduction in high flow from the baseline condition. The Low Flow target is positive (+), indicating there needs to be an increase in low flow from the baseline condition.		
<sup>2</sup> The low flow target is not actionable under the TMDL, but is included because improving base flow in the watershed is still a water quality goal.		

While the low-flow goal is important to ensure flow during the dry summer months, it is not an actionable requirement in the EPA approved TMDL, and therefore was not the primary focus of the FRP BMP identification for this study.

## 2.2 MS4 Allocation of Flow Targets

Allocation of the high-flow flow targets between MS4 entities was approximated based on relative impervious ownership and impervious cover currently managed with a BMP which meets the Channel Protection Volume (CPv) design standard. This includes BMPs which detain the 1-year storm for 12-hours in cold-water fish habitat and 24-hours in warm-water fish habitat. However, there are limitations to this method because the BMPDSS model is an aggregate model, in which upstream BMPs affect downstream flow, and runoff doesn't necessarily follow political boundaries. A correction factor was applied based on the flow target to account for the relative error in separation of the BMPDSS results by MS4.

Approximately 34.9% of the impervious cover in the Sunderland Brook watershed is within the Town of Essex, 25.5% within the Village of Essex Junction, 36.6% of the Town of Colchester, and 3.1% in the VTRANS Right-of-Way (Table 2). The TMDL flow targets were then re-allocated to each MS4 based on their impervious ownership (Table 3).

**Table 2: MS4 Impervious Breakdown**

MS4 Impervious Owner	Total Area w/in Watershed (acres)	Impervious Area (acres)	% of Watershed Impervious Cover
University of Vermont*	----	----	----
Town of Essex	318.32	123.14	37.6%
Village of Essex Junction	173.58	86.5	26.4%
Town of Colchester	867.07	107.18	32.8%
VTrans	17.83	10.42	3.2%
<b>Watershed Total</b>	<b>1376.80</b>	<b>327.24</b>	
*Determined to not be an MS4 according to VT DEC and EPA for Sunderland.			

**Table 3: Sunderland Brook TMDL Flow Target Allocation by MS4**

MS4 Impervious Owner	Target High Flow Q 0.3 (%) Reduction <sup>1</sup>	Target Low Flow Q 95 (%) Increase <sup>2</sup>
University of Vermont	NA	NA
Town of Essex	-1.3%	1.3%
Village of Essex Junction	-0.9%	0.9%
Town of Colchester	-1.3%	1.3%
VTrans	-0.1%	0.1%
<b>Watershed Total<sup>3</sup></b>	<b>-3.7%</b>	<b>3.6%</b>
<sup>1</sup> The High Flow target is negative (-), indicating there needs to be a reduction in high flow from the baseline condition. The Low Flow target is positive (+), indicating there needs to be an increase in low flow from the baseline condition.		
<sup>2</sup> The low flow target is not actionable under the TMDL, but is included in the assessment because improving base flow in the watershed is still a water quality goal.		
<sup>3</sup> Watershed delineation from file "Sunderland_post_watershed_101714"		



# TOWN OF ESSEX VERMONT

81 MAIN STREET, ESSEX JUNCTION, VERMONT 05452  
Fax: 878-1353 • E-mail: [manager@essex.org](mailto:manager@essex.org) • Website: [www.essex.org](http://www.essex.org)

25 August 2015

Christy Witters, AICP  
MS4 and MSGP Stormwater Program  
One National Life Drive  
Montpelier, VT 05620-3522

Christy,

The Town of Essex, Village of Essex Junction and other MS4 permittees impacting the impaired waterways of Sunderland Brook and Indian Brook have completed work on the technical aspects of Flow Restoration Plans for these streams. The work was done under contract to Watershed Consulting Associates, LLC, using local funds coupled with a grant from VTRANS.

The document is lengthy with numerous attachments. Therefore we are directing your attention to the following link on the Town's web page:

[http://www.essex.org/index.asp?SEC=8926486E-5677-4E3F-9619-49A380A7D64E&DE=F6553D13-8F3C-4EB1-BA82-212B7172DDDE&Type=B\\_BASIC](http://www.essex.org/index.asp?SEC=8926486E-5677-4E3F-9619-49A380A7D64E&DE=F6553D13-8F3C-4EB1-BA82-212B7172DDDE&Type=B_BASIC)

Missing from the document at this time is the Implementation Plan and Financial Plan for each of these streams. These are in the process of being developed. However, before the affected MS4 permittees can move forward with these portions of the plan, it is important to receive feedback from the Agency on the acceptability of the technical aspects of the Plans.

To provide some overall perspective on our approach, the Sunderland Brook FRP indicates that we are at 214% of the cumulative percentage of high target flows. Low flow targets cannot be achieved if all the projects listed in the report were constructed as well as many others not even identified. As we have discussed in the past, meeting the low flow targets is not a permit requirement. Our tentative approach is not to proceed with further flow restoration implementation projects in this watershed at this time. This does not indicate that projects identified in the FRP in this watershed may not be considered for implementation at a later date for either Flow Restoration or Phosphorous reduction under the Lake Champlain TMDL.

In Indian Brook, the situation is different. In that watershed, we currently meet 42% of the high flow target. Construction of select projects within that watershed, to include the three projects

TOWN MANAGER	PARKS AND RECREATION	COMMUNITY DEVELOPMENT	PUBLIC WORKS	ASSESSOR	FINANCE	TOWN CLERK	LIBRARY	POLICE
878-1341	878-1342	878-1343	878-1344	878-1345	878-1359	879-0413	879-0313	878-8331

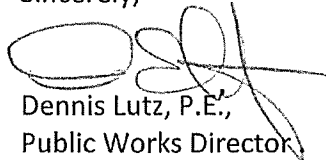
on page 17 of the Plan couple with the top two projects on page 18 and the 189/Route 15 north project will bring us up to 155% of the high flow target. In our opinion, this is an appropriate attainment level with an acceptable safety margin. Again, there is the same issue as in Sunderland Brook as to low flow issues and future implementation of other projects in the watershed. It is requested that you provide us with feedback on our proposed level of flow restoration in the Indian Brook Watershed.

A presentation of the Flow Restoration Plans to the Town Selectboard will be made on September 14, 2015 at their regularly scheduled meeting. The Village Trustees will be briefed on September 22<sup>nd</sup> at their normal meeting. You are welcome to come to these meetings. A few of the Selectboard members and Trustees have already been briefed on the report as they are members of the Joint Town/Village Storm Water Coordinating Committee.


Finally, decisions made on the FRP by the elected officials may have an impact on how certain expired permits will be handled by the two communities.

If you have any questions, please feel free to contact either Annie Costandi or me in the Town (878-1344), Jim Jutras or Chelsea Mandigo in the Village (878-6943) or Andres Torizzo from Watershed Consulting Associates, LLC at 497-2367.

Sincerely,




Dennis Lutz, P.E.,  
Public Works Director

<b>ID#: WIN-1</b>			
<b>Name:</b> North Street, Brisson and Pine Grove			
<b>Concept Description:</b> Wide, flat street w/ room for on-street parking. A number of roof leaders discharge onto driveways. Opportunities for traffic-calming bump-outs to manage road runoff. Some yards appear amenable to residential-scale rain gardens.			
<b>Notes/Feasibility:</b> Willingness of landowners to install rain gardens is unknown; there may be some resistance to repurposing of on-street parking for stormwater treatment			
<b>GENERAL SITE INFORMATION</b>		<b>RETROFIT DETAILS</b>	
<b>Site Contact Info:</b>	City of Winooski	<b>Project Candidate:</b>	Yes
<b>Ownership:</b>	Public/private	<b>Retrofit of new or existing BMP:</b>	New
<b>Land Use Type:</b>	Road/SFRs	<b>Proposed Retrofit Practice 1:</b> Traffic-calming bump-out	
<b>Existing BMP on Site?</b>	No	<b>Proposed Retrofit Practice 2:</b>	
<b>Is site a hotspot?</b>	No	<b>Non-Structural Controls:</b>	Downspout disconnection
<b>Sources/pollutants:</b>	Road runoff	<b>Maintenance Burden:</b>	low
<b>Soils:</b>	HSG A	<b>Benefits:</b>	<b>Conflicts:</b>
<b>SIZING INFORMATION</b>		Storage	No
<b>Drainage Area (ac):</b>	City input needed	Water quality	Yes
<b>Impervious Area (ac):</b>	"	Recharge	Yes
<b>Practice Area Available (ft²):</b>	"	Demonstration	Yes
<b>Existing Head Available?</b>	Yes	Repair	No
		Soils	No
		Access	Maybe
		Land Use	Maybe
		Utilities	Maybe
		Wetlands	No

Date: 07/14/15

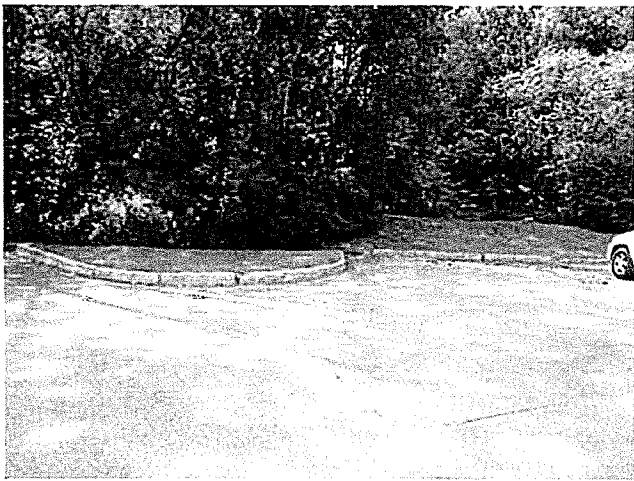
Assessed by: JSM/CG



<b>ID#: WIN-2</b>			
<b>Name:</b> Pine Grove Terr, west of Cedar St			
<b>Concept Description:</b> Wide, flat street w/ room for on-street parking. A number of roof leaders discharge onto driveways. Opportunities for traffic-calming bump-outs to manage road runoff. In addition, existing green space between sidewalk and road could be repurposed as a "green gutter".			
<b>Notes/Feasibility:</b> Utilities in this neighborhood are buried and may limit some options in the ROW			
<b>GENERAL SITE INFORMATION</b>		<b>RETROFIT DETAILS</b>	
<b>Site Contact Info:</b>	City of Winooski	<b>Project Candidate:</b>	Yes
<b>Ownership:</b>	Public/private	<b>Retrofit of new or existing BMP:</b>	New
<b>Land Use Type:</b>	Road/SFRs	<b>Proposed Retrofit Practice 1:</b> Green street/green gutter	
<b>Existing BMP on Site?</b>	No	<b>Proposed Retrofit Practice 2:</b>	
<b>Is site a hotspot?</b>	No	<b>Non-Structural Controls:</b> Downspout disconnection	
<b>Sources/pollutants:</b>	Road runoff	<b>Maintenance Burden:</b> Medium	
<b>Soils:</b>	HSG A	<b>Benefits:</b>	<b>Conflicts:</b>
<b>SIZING INFORMATION</b>		Storage	No
<b>Drainage Area (ac):</b>	City input needed	Water quality	Yes
<b>Impervious Area (ac):</b>	"	Recharge	Yes
<b>Practice Area Available (ft²):</b>	"	Demonstration	Yes
<b>Existing Head Available?</b>	Yes	Repair	No
		Soils	No
		Access	No
		Land Use	Maybe
		Utilities	Maybe
		Wetlands	No


Date: 07/14/15

Assessed by: JSM/CG

ID#: WIN-3			
<b>Name:</b> End of Pine Grove Terrace			
<b>Concept Description:</b> End of Pine Grove Terrace has odd-shaped "cul-de-sac"; existing storm pond is beyond berm on right-side pf photo. Significant erosion was evident below the storm drain outfall that drains cul-de-sac. The cul-de-sac could be reconfigured to reduce the impervious area and create space for storage.			
<b>Notes/Feasibility:</b> Any space that could be created here might may be more efficient to use for pond expansion (see WIN-4, which receives runoff from ~30 acres).			
GENERAL SITE INFORMATION		RETROFIT DETAILS	
<b>Site Contact Info:</b>	City of Winooski	<b>Project Candidate:</b>	Maybe
<b>Ownership:</b>	Public/private	<b>Retrofit of new or existing BMP:</b>	New
<b>Land Use Type:</b>	Road/SFRs	<b>Proposed Retrofit Practice 1:</b> Infiltration area	
<b>Existing BMP on Site?</b>	No	<b>Proposed Retrofit Practice 2:</b>	
<b>Is site a hotspot?</b>	No	<b>Non-Structural Controls:</b> Impervious cover removal	
<b>Sources/pollutants:</b>	Road runoff/yard waste	<b>Maintenance Burden:</b> Medium	
<b>Soils:</b>	HSG A	<b>Benefits:</b>	<b>Conflicts:</b>
<b>SIZING INFORMATION (measured from GIS)</b>		Storage	No
<b>Drainage Area (ac):</b>	~1 ac to outfall	Water quality	Yes
<b>Impervious Area (%):</b>	50%	Recharge	Yes
<b>Practice Area Available (ft²):</b>	1500 sf	Demonstration	Yes
<b>Existing Head Available?</b>	Yes	Repair	No
		Soils	No
		Access	No
		Land Use	Maybe
		Utilities	Maybe
		Wetlands	No


Date: 07/14/15

Assessed by: JSM/CG

<b>ID#: WIN-4</b>					
<b>Name:</b> Pine Grove Pond					
<b>Concept Description:</b> Retrofit existing, pre-2002 pond to increase detention time and better manage peak flows. Pond appears to have received limited maintenance; outlet was not viewed during initial site visit.					
<b>Notes/Feasibility:</b> As noted on WIN-3, due to space constraints expansion of pond could preclude construction of infiltration practice at the end of Pine Grove Terr					
<b>GENERAL SITE INFORMATION</b>		<b>RETROFIT DETAILS</b>			
<b>Site Contact Info:</b>	City of Winooski	<b>Project Candidate:</b>	Yes		
<b>Ownership:</b>	Public/private	<b>Retrofit of new or existing BMP:</b>	Existing		
<b>Land Use Type:</b>	Road/SFRs	<b>Proposed Retrofit Practice 1:</b> Pond improvements			
<b>Existing BMP on Site?</b>	Yes	<b>Proposed Retrofit Practice 2:</b>			
<b>Is site a hotspot?</b>	No	<b>Non-Structural Controls:</b>	Downspout disconnection		
<b>Sources/pollutants:</b>	Road runoff/yard waste	<b>Maintenance Burden:</b>	Low		
<b>Soils:</b>	HSG A	<b>Benefits:</b>	<b>Conflicts:</b>		
<b>SIZING INFORMATION (measured from GIS)</b>		Storage	Yes	Soils	No
<b>Drainage Area (ac):</b>	~30 ac	Water quality	Yes	Access	No
<b>Impervious Area (%):</b>	30%	Recharge	No	Land Use	Maybe
<b>Practice Area Available (ft²):</b>	6000 sf, incl. existing pond	Demonstration	No	Utilities	Maybe
<b>Existing Head Available?</b>	Yes	Repair	Yes	Wetlands	Maybe


Date: 07/14/15

Assessed by: JSM/CG

<b>ID#: WIN-5</b>			
<b>Name:</b> Landry Park Tennis Courts			
<b>Concept Description:</b> There is considerable rill erosion on the slope to the south of the tennis courts, which appears to be attributable to runoff from the courts. In addition, a portion of the parking lot drains to the north and east. A bioswale could be constructed at the toe of the court-side slope to convey runoff to the corner of the parking lot, where an infiltration basin could be constructed in place of several existing parking spots.			
<b>Notes/Feasibility:</b> Existing dumpster should be relocated. Parking could be reconfigured and/or a paved swale added to encourage additional area to drain to the north and east.			
<b>GENERAL SITE INFORMATION</b>		<b>RETROFIT DETAILS</b>	
<b>Site Contact Info:</b>	City of Winooski	<b>Project Candidate:</b>	Maybe
<b>Ownership:</b>	Public	<b>Retrofit of new or existing BMP:</b>	New
<b>Land Use Type:</b>	Parking lot/Landry Park	<b>Proposed Retrofit Practice 1:</b> Infiltration area	
<b>Existing BMP on Site?</b>	No	<b>Proposed Retrofit Practice 2:</b> Bioswale	
<b>Is site a hotspot?</b>	No	<b>Non-Structural Controls:</b> Impervious cover removal	
<b>Sources/pollutants:</b>	Athletic fields	<b>Maintenance Burden:</b> Medium	
<b>Soils:</b>	HSG A	<b>Benefits:</b>	<b>Conflicts:</b>
<b>SIZING INFORMATION (measured from GIS)</b>		Storage	No
<b>Drainage Area (ac):</b>	0.75 ac	Water quality	Yes
<b>Impervious Area (%):</b>	50%	Recharge	Yes
<b>Practice Area Available (ft²):</b>	1500 sf	Demonstration	Yes
<b>Existing Head Available?</b>	Some	Repair	No
			Soils
			No
			Access
			No
			Land Use
			Yes
			Utilities
			Maybe
			Wetlands
			No


Date: 07/14/15

Assessed by: JSM/CG

<b>ID#: WIN-6</b>			
<b>Name:</b> Landry Park parking lot			
<b>Concept Description:</b> Western half of the parking lot at Landry Park drains to DI that is currently failed (e.g., collapsed). Soils surrounding the parking lot are HSG A; if parking lot is to be redone, consideration should be given to grading the lot to shed water toward adjacent green space and disconnect it from the storm drain system. There is also space off the northwest corner of the lot where an infiltration area could be established. Some potential for larger practice to north/west of lot near skate park; will required detailed review of existing infrastructure mapping.			
<b>Notes/Feasibility:</b> Although it is clear the City needs to take action to address the failed DI, it is not clear how extensive the renovation may be. Storm sewer maps indicate that Industrial Park pond drains to sewer line that passes thru/under park.			
<b>GENERAL SITE INFORMATION</b>		<b>RETROFIT DETAILS</b>	
<b>Site Contact Info:</b>	City of Winooski	<b>Project Candidate:</b>	Maybe
<b>Ownership:</b>	Public	<b>Retrofit of new or existing BMP:</b>	New
<b>Land Use Type:</b>	Parking lot/Landry Park	<b>Proposed Retrofit Practice 1:</b> Infiltration area	
<b>Existing BMP on Site?</b>	No	<b>Proposed Retrofit Practice 2:</b>	
<b>Is site a hotspot?</b>	No	<b>Non-Structural Controls:</b>	
<b>Sources/pollutants:</b>	Athletic fields	<b>Maintenance Burden:</b> Medium	
<b>Soils:</b>	HSG A	<b>Benefits:</b>	<b>Conflicts:</b>
<b>SIZING INFORMATION (measured from GIS)</b>		Storage	No
<b>Drainage Area (ac):</b>	~0.5 ac	Water quality	Yes
<b>Impervious Area (%):</b>	90%	Recharge	Yes
<b>Practice Area Available (ft²):</b>	1500 sf	Demonstration	No
<b>Existing Head Available?</b>	Some	Repair	Yes
			No


Date: 07/14/15

Assessed by: JSM/CG

<b>ID#: WIN-7</b>					
<b>Name:</b> Highland Industrial Park Pond					
<b>Concept Description:</b> Retrofit existing pond to increase detention time and better manage peak flows. Pond appears to have received limited maintenance; outlet was not viewed during initial site visit.					
<b>Notes/Feasibility:</b> Numerous upgrades have been implemented within the industrial park. It will be important to understand the detention time and the impact that the overall system currently has on flows at the watershed outlet					
<b>GENERAL SITE INFORMATION</b>		<b>RETROFIT DETAILS</b>			
<b>Site Contact Info:</b>	Highland Industrial Park	<b>Project Candidate:</b>	Maybe		
<b>Ownership:</b>	Private	<b>Retrofit of new or existing BMP:</b>	Existing		
<b>Land Use Type:</b>	Commercial/industrial	<b>Proposed Retrofit Practice 1:</b> Pond improvements			
<b>Existing BMP on Site?</b>	Yes	<b>Proposed Retrofit Practice 2:</b>			
<b>Is site a hotspot?</b>	No	<b>Non-Structural Controls:</b>			
<b>Sources/pollutants:</b>	Road runoff	<b>Maintenance Burden:</b> Low			
<b>Soils:</b>	HSG A	<b>Benefits:</b>	<b>Conflicts:</b>		
<b>SIZING INFORMATION (measured from GIS)</b>		Storage	Yes	Soils	No
<b>Drainage Area (ac):</b>	25 ac	Water quality	Yes	Access	No
<b>Impervious Area (%):</b>	75%	Recharge	No	Land Use	No
<b>Practice Area Available (ft²):</b>	??	Demonstration	No	Utilities	No
<b>Existing Head Available?</b>	Yes	Repair	??	Wetlands	??

Date: 07/14/15

Assessed by: JSM/CG

<b>ID#: COL-1</b>					
<b>Name:</b> Young Street					
<b>Concept Description:</b> Cul-de-sac at the south west end of Young St has two Dis. Significant erosion was evident below the storm drain outfall connected to these structures. The cul-de-sac could be reconfigured to reduce the impervious area and create space for storage/infiltration. This area is mapped as having highly infiltrative soils.					
<b>Notes/Feasibility:</b> Need to understand Colchester requirements for cul-de-sac layout to determine area eligible for practice; may be able to cover next set of Dis to the north on Young St to increase drainage area					
<b>GENERAL SITE INFORMATION</b>		<b>RETROFIT DETAILS</b>			
<b>Site Contact Info:</b>	Town of Colchester	<b>Project Candidate:</b>	Yes		
<b>Ownership:</b>	Public/private	<b>Retrofit of new or existing BMP:</b>	New		
<b>Land Use Type:</b>	Road/SFRs	<b>Proposed Retrofit Practice 1:</b> Infiltration area			
<b>Existing BMP on Site?</b>	No	<b>Proposed Retrofit Practice 2:</b>			
<b>Is site a hotspot?</b>	No	<b>Non-Structural Controls:</b> Impervious cover removal			
<b>Sources/pollutants:</b>	Road runoff, yard waste	<b>Maintenance Burden:</b> Medium			
<b>Soils:</b>	HSG A	<b>Benefits:</b>	<b>Conflicts:</b>		
<b>SIZING INFORMATION</b>		Storage	Yes	Soils	No
<b>Drainage Area (ac):</b>	~1 ac	Water quality	Yes	Access	No
<b>Impervious Area (ac):</b>	50%	Recharge	Yes	Land Use	Maybe
<b>Practice Area Available (ft²):</b>	~2000 sf	Demonstration	Yes	Utilities	Maybe
<b>Existing Head Available?</b>	Yes	Repair	Yes	Wetlands	No

Date: 07/14/15

Assessed by: JSM/CG



ID#: COL-2

**Name:** Malletts Bay Ave**Concept Description:**

Near where Malletts Bay Ave crosses over Morehouse Brook, there is a swath of unused pavement that is neither available for parking or as part of the travel lane. This area could be depaved and a green gutter installed.

**Notes/Feasibility:**

There is considerable bike traffic along Malletts Bay Ave and care would need to be taken to ensure that enough room remains for both bikes and cars to travel safely.



GENERAL SITE INFORMATION		RETROFIT DETAILS	
<b>Site Contact Info:</b>	Town of Colchester	<b>Project Candidate:</b>	Yes
<b>Ownership:</b>	Public	<b>Retrofit of new or existing BMP:</b>	New
<b>Land Use Type:</b>	Road	<b>Proposed Retrofit Practice 1:</b> Green street/gutter	
<b>Existing BMP on Site?</b>	No	<b>Proposed Retrofit Practice 2:</b>	
<b>Is site a hotspot?</b>	No	<b>Non-Structural Controls:</b>	Impervious cover removal
<b>Sources/pollutants:</b>	Road runoff, yard waste	<b>Maintenance Burden:</b>	Medium
<b>Soils:</b>	HSG A	<b>Benefits:</b>	<b>Conflicts:</b>
<b>SIZING INFORMATION</b>		Storage	No
<b>Drainage Area (ac):</b>	~0.25 ac	Water quality	Yes
<b>Impervious Area (ac):</b>	100%	Recharge	Yes
<b>Practice Area Available (ft²):</b>	~300 sf	Demonstration	Yes
<b>Existing Head Available?</b>	Yes	Repair	No
		Soils	No
		Access	No
		Land Use	Maybe
		Utilities	Maybe
		Wetlands	No

Date: 07/14/15

Assessed by: JSM/CG



## Warner Rackley

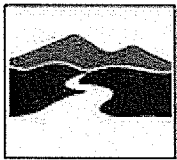
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**From:** Witters, Christy <Christy.Witters@vermont.gov>  
**Sent:** Monday, November 23, 2015 10:15 AM  
**To:** Warner Rackley  
**Subject:** RE: Question about the LID technical assistance program

Hi Warner,

Yes, Colchester is meeting the MS4 permit LID requirement by hosting rain barrel workshops and by posting links to the state's LID website on the Colchester stormwater page. Good work. I've included the 2 links that other MS4s are using, below. Thanks, Christy

State's LID/GSI website: [http://www.watershedmanagement.vt.gov/stormwater/htm/sw\\_green\\_infrastructure.htm](http://www.watershedmanagement.vt.gov/stormwater/htm/sw_green_infrastructure.htm)  
CCRPC's LID website: <http://smartwaterways.org/2014/12/low-impact-development-technical-assistance-for-homeowners/>



VERMONT DEPARTMENT OF  
ENVIRONMENTAL CONSERVATION  
**WATERSHED**  
MANAGEMENT DIVISION  
STORMWATER PROGRAM

**Christy Witters, AICP**  
***MS4 and MSGP Program Coordinator***  
1 National Life Drive, Main 2  
Montpelier, VT 05620-3522  
802-490-6173 / [christy.witters@vermont.gov](mailto:christy.witters@vermont.gov)  
[www.watershedmanagement.vt.gov](http://www.watershedmanagement.vt.gov)

---

**From:** Warner Rackley [<mailto:WRackley@colchestervt.gov>]  
**Sent:** Friday, November 20, 2015 10:50 AM  
**To:** Witters, Christy  
**Subject:** Question about the LID technical assistance program

Christy,

We do have one additional question about the LID training or assistance program for landowners. At this point, our assistance for landowners would pretty much be limited to our annual rain barrel workshops put on each spring by the local Conservation Commission and referring residents and/or developers to documents available on the web, like your Small Sites Guide for Stormwater Management. Obviously, we would and typically do field questions from residents and the development community, but we don't have other specific programs set up. The current redevelopment project for the Bay Area is looking at upgrading systems including transportation, wastewater, and stormwater. As part of that process, they will also look at possible new design guidelines for the East and West Lakeshore Drive corridor, which could be applicable to other areas. I guess our question would be are we where we are supposed to be for this requirement? Should we be taking other steps to provide information to property owners?

Thanks,



**Warner C. Rackley, PE**  
Asst. Public Works Dir./Town Engineer

Town of Colchester  
781 Blakely Rd. | P.O. Box 55  
Colchester, Vermont 05446  
P: 802.264.5635 | F: 802.264.5503

[colchestervt.gov](http://colchestervt.gov)

*Notice – Under Vermont's Public Records Act, all e-mail, e-mail attachments as well as paper copies of documents received or prepared for use in matters concerning Town business, concerning a Town official or staff, or containing information relating to town business are likely to be regarded as public records which may be inspected by any person upon request, unless otherwise made confidential by law. If you have received this message in error, please notify us immediately by return email. Thank you for your cooperation.*



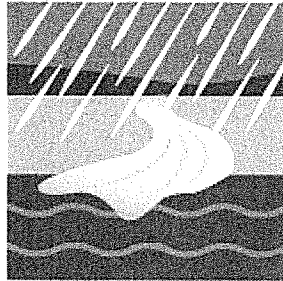
## **Minimum Measure 1**

### **Public Education and Outreach on Storm Water Impacts**

#### **Attachments:**

1. Regional Storm Water Educational Program:
  - a. Annual Review: 2015 Calendar Year Summary
  - b. Smart Water Ways Ad Campaign July FY 15 to June 2016
  - c. Fall 2015 Ad Campaign Results
2. Invoice and payment of 2014 RSEP contribution.
3. Public Works Storm Water Web Page
4. StormWater Advisory Committee Web Page

# SMART WaterWays



Add Up To  
Cleaner Water

## Chittenden County Regional Stormwater Educational Program

### Annual Review: 2015 Calendar Year Summary

2015 was a maintenance year for RSEP, utilizing 2014's "*Slow the Flow*" campaign creative around rain barrels and rain gardens and also the creative informing people about the best time to fertilize (if at all). In 2015, we saw strong results, with the second-highest website visits on record. (Only 2014 was higher.) We continued to use data from past campaign performance to tweak media buys and try some different ad formats, consistently working to reach more people.

In 2015 we also continued to improve our website, focusing on cleaning up links, developing stronger verbiage, and deleting outdated content. Building on the design refresh of 2014, the website is now technically and visually more modern, more clearly written, and easier to navigate.

### Spring Advertising Campaign

During the Spring campaign we utilized some new ad formats with *Xfinity*, specifically a home page takeover and Comcast Video Plus, which allowed us to advertise on *Comcast* partner sites. Compared with Table 2: Fall 2015 Online Campaign Results, it's clear that the traditional pre-roll ads (ads that run prior to watching a video) prove to be more effective than these new ad opportunities.

The online portion of the advertising budget accounts for 36% of the overall expenditure of \$19,855. The remainder covers radio, television and print advertising. Media beyond online ads raises awareness and allows consumers additional impressions, but the vast majority of web clicks come from online ads, driven by the ease by which people can access the Smart Waterways site from an online ad.



**Table 1: Spring 2015 Online Media Results**

	<b>Impressions</b>	<b>Clicks</b>	<b>Cost</b>	<b>Cost per Click</b>
WCAX	90,000 impressions	198	\$990	\$5.00
Xfinity*		373	\$1,725	\$4.62
	video pre-roll, 16,300 impressions	252		
	home page takeover	33		
	Comcast Video Plus, 26,300 impressions	88		
Front Porch Forum	210,000 impressions	253	\$1,500	\$5.93
Google ad network	pay-per-click	382	\$1,398	\$3.66
Seven Days	100,000 impressions	116	\$1,093	\$9.42
<b>TOTAL</b>		<b>1695</b>	<b>\$6,706</b>	<b>\$3.96</b>

**Fall Advertising Campaign**

For the Fall campaign we focused back on the issue of not using fertilizer in the spring. In order to use past material, we worked with local Fox television affiliate *WFFF* to remake the old television spot (which was not digital and looked grainy) in an HD format. This spot can now be used into the foreseeable future.

In addition, as mentioned above, based upon what we learned using the t *Xfinity* ad formats, we decide to revert back to using pre-roll ads only, driving down the cost per click. Even with the high cost per click for *WFFF/ABC 22* ads, our overall cost per click was very low at \$3.07, as shown below in Table 2. The online portion of the advertising budget was 51% of the overall expenditure of \$9,940.

**Table 2: Fall 2015 Online Campaign Results**

	<b>Impressions</b>	<b>Clicks</b>	<b>Cost</b>	<b>Cost per click</b>
WCAX	120,000 impressions RSS feed	316	\$600	\$1.90
Xfinity	55,000 video pre-roll impressions	832	\$1,980	\$2.38
Front Porch Forum	50,000 impressions	77	\$750	\$9.74
Google ad network	pay-per-click	329	\$860	\$2.61
WFFF/ABC 22	90,000 impressions	38	\$700	\$18.42
<b>TOTAL</b>		<b>1,592</b>	<b>\$4,890</b>	<b>\$3.07</b>



### Traffic to Program Website ([www.smartwaterways.org](http://www.smartwaterways.org))

Presented below in Figure 1 and Table 3 is the website visitor information for 2015, compared to preceding years.

The site had 4,659 visits during 2015, not as strong as 2014 but still the second highest on record. Website traffic increases correlate with media campaigns. The Chittenden County' Stream Team's *Connecting the Drops* program ran in Williston during the June timeframe, keeping web traffic high in between campaigns.

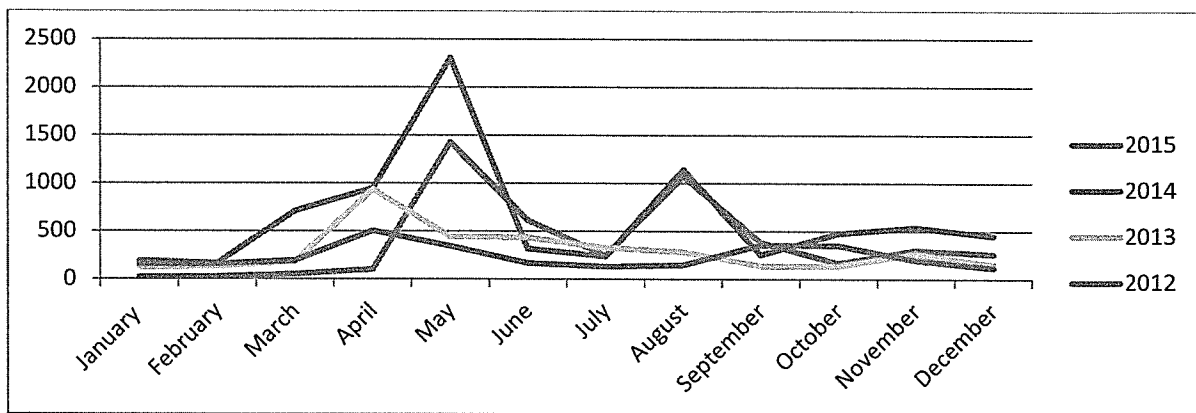


Figure 1: Total Internet Traffic to SmartWaterways.org

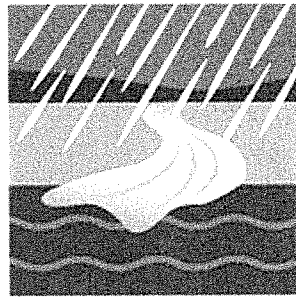
Table 3: Total Internet Traffic to Smartwaterways.org

YEAR	TOTAL
2015	4,659
2014	7,728
2013	3,542
2012	2,817
2011	2,859



# 2015 Campaign Results & 2016 Communications Plan for the Regional Stormwater Education Program

**SMART**  
WaterWays



Add Up To  
Cleaner Water

July FY15 to June 2016



Presented by  
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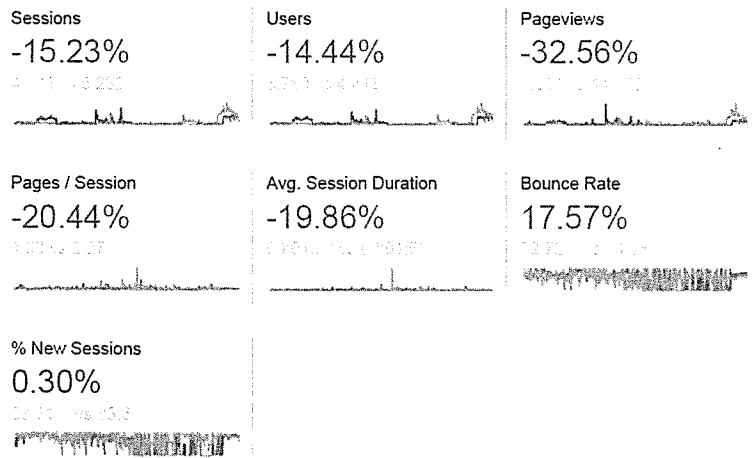
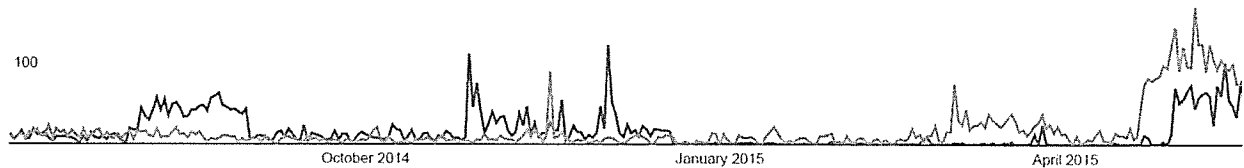


## FY15 Campaigns: Overview

The campaign results for FY15 year were very positive. As you can see in the below graphs, the advertising shift to web ads continues to drive strong traffic to the Smart Waterways website, although the Spring campaign in 2014 did outperform 2015. Below is a breakdown of how the FY15 campaigns performed vs. similar campaign periods. This document also includes recommendations as we move into FY16.

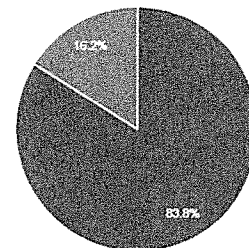
In addition, the smartwaterways.org website began having technical issues in the fourth quarter of 2014. The website was updated to resolve those issues while giving it a refreshed look. This was also a good opportunity to update the Flash files on the site (most critically, Stormville). Flash cannot be viewed on Apple products such as iPhones and iPads. This is particularly important because in the last 12 months, approximately 25% of our audience used a mobile device or tablet to access the site and of those, nearly three quarters were on Apple devices. The new files are supported by all devices.

Jul 1, 2014 - May 22, 2015: ● Sessions  
Jul 1, 2013 - May 22, 2014: ● Sessions  
200  
100

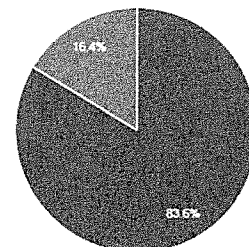


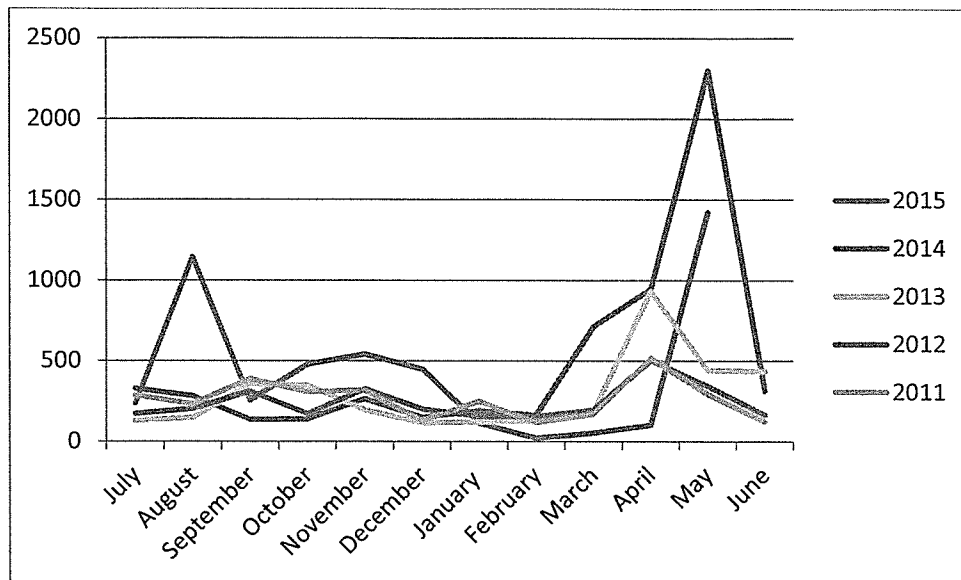
■ New Visitor ■ Returning Visitor

Jul 1, 2014 - May 22, 2015



Jul 1, 2013 - May 22, 2014





TOTAL	TIME PERIOD
4817	FY15
5924	FY14
3540	FY13
2907	FY12
3131	FY11

#### FY15 Accomplishments

- Continuation of successful online campaign strategy during the maintenance year.
- Refresh of the website. This alleviated technical issues with the outdated theme and gave the site an updated look without a full redesign.
- Updated Flash files on the site, most importantly Stormville, so they can be viewed by Apple product users.



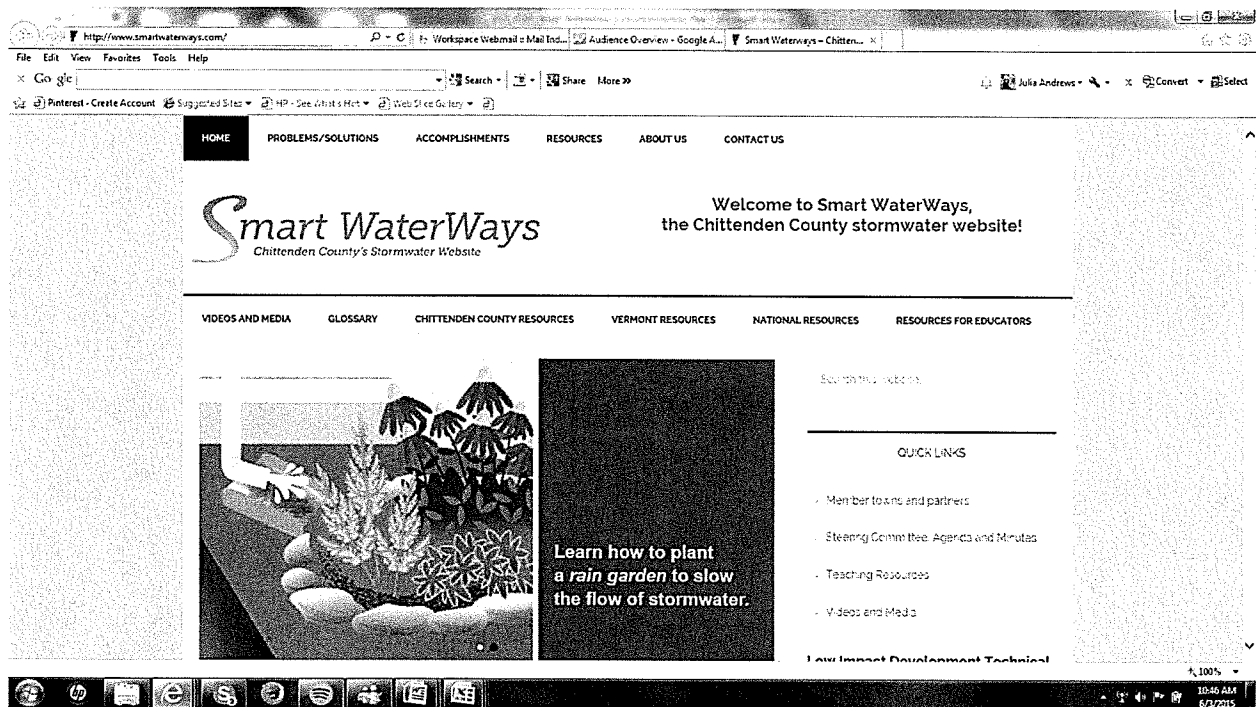
## Fall 2014 Web Refresh

The refresh of smartwaterways.org was brought about by a sudden lack of functionality on the site. Because the site was built so long ago, it finally became incompatible with the most updated version of Wordpress, causing many of the pages to be unavailable and also for the formatting of the site to be off.

In order to get the site back on track, the site content was loaded into a new Wordpress theme. This theme was purchased from a vendor that updates their themes regularly to keep up with Wordpress updates, so that we don't have the same problem occur in the future. This new theme allows for multiple navigation bars, giving users more flexibility in how they navigate the site while giving the site a fresh look.

Additionally, while making these updates, Stormville and other Flash files on the site were converted to html. This alleviates the issue of Apple products such as iPhones and iPads not being able to access some of the site's most popular content.

The refreshed site launched in January 2015.



## Campaign: Fall 2014

For this campaign we ran the rain garden creative developed in the prior year. While FY15 is a maintenance year, we did make some adjustments to media in an effort to improve performance. Specifically, we ran video pre-roll spots on Xfinity (similar to commercials you see prior to running a YouTube video), and we moved from text-only ads on Google to graphical banner ads.

During the campaign window, the site received a total of 1,096 visits from 1,023 users. As is typical during a campaign window, the bounce rate increased to 73.91%.

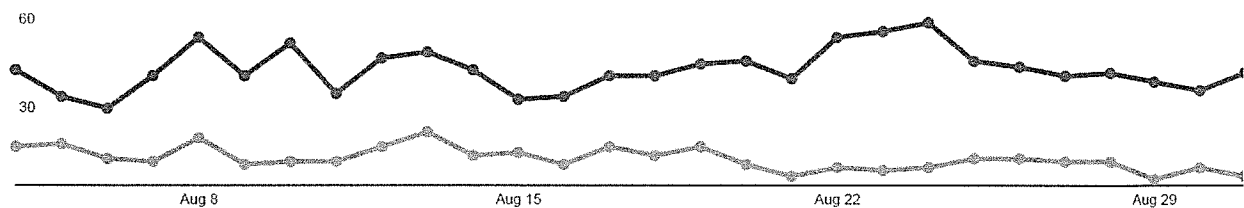
The overall cost per click fell to under \$5.

The direct year-over-year comparison of web traffic is not a fair one, as in the fall of 2013 no campaign ran.

\*

Aug 4, 2014 - Aug 31, 2014: ● Sessions

Aug 4, 2013 - Aug 31, 2013: ○ Sessions



Sessions

338.40%



Users

344.78%



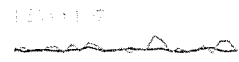
Pageviews

268.97%



Pages / Session

-15.84%



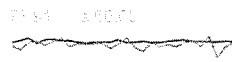
Avg. Session Duration

-22.06%



Bounce Rate

23.18%



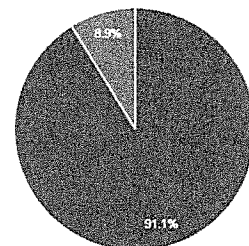
% New Sessions

4.91%

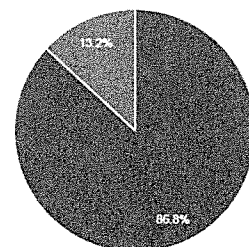


■ New Visitor ■ Returning Visitor

Aug 4, 2014 - Aug 31, 2014



Aug 4, 2013 - Aug 31, 2013



<b>Fall 2014</b>	
Clicks	1096
Users	1023
Page views	1819

<b>Fall 2013</b>	
Clicks	250
Users	230
Page views	493

<b>Online Media Results, August 4-31, 2014</b>				
	<b>Impressions</b>	<b>Clicks</b>	<b>Cost</b>	<b>Cost per Click</b>
WCAX	75,000 impressions	86	\$600	\$6.98
Xfinity	video pre-roll	131	\$750	\$5.73
Front Porch Forum	58,000 impressions	127	\$756	\$5.95
Google ad network	pay-per-click	411	\$1,000	\$2.43
Seven Days	87,500 impressions	77	\$700	\$9.09
<b>TOTAL</b>		<b>832</b>	<b>\$3,806</b>	<b>\$4.57</b>

### **Top Referring Sites**

1. Googleads.doubleclick.net
2. Wcax.com
3. Sevendaysvt.com
4. Xfinity.comcast.net
5. Wunderground.com (Google property)
6. Classifieds.sevendaysvt.com
7. Weather.com (Google property)
8. Ehow.com (Google property)
9. Theanimalrescuesite.greatergood.com (Google property)
10. Ccrpcvt.com

### **Top Content**

1. Home
2. Solutions/excess-stormwater/rain-gardens
3. Solutions
4. Solutions/excess-stormwater/reduce-runoff
5. Solutions/excess-stormwater

### **Location of users**

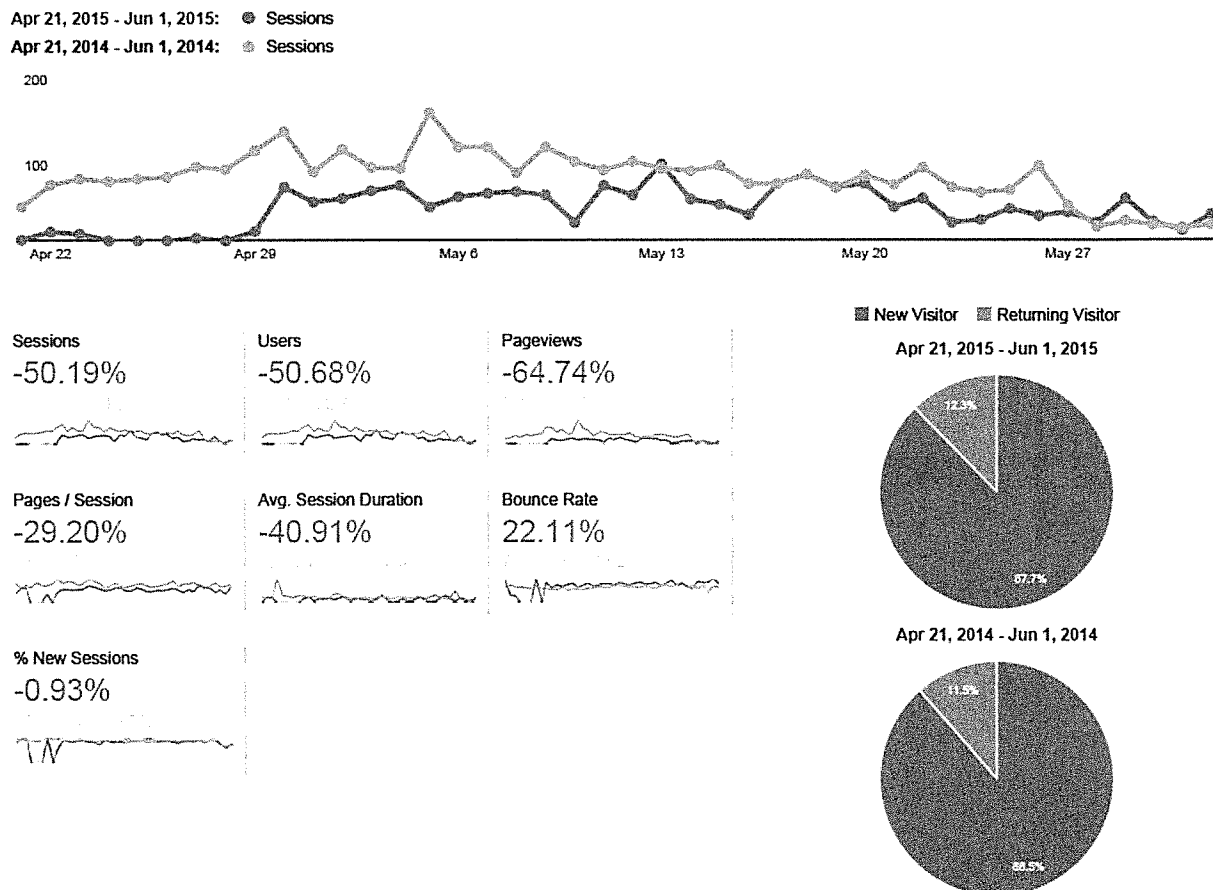
83.85% of all traffic came from within the United States; 87.76% of that traffic came from within Vermont.



## Campaign: Spring 2015

This campaign also took place during the maintenance year and utilizes the rain garden creative. In choosing media, we utilized learnings from prior campaigns, specifically using Xfinity pre-roll spots and moving back to text only ads on Google. We continue to test new media in an effort to find the most efficient mix. For this campaign window we took advantage of two new opportunities with Xfinity- a login page takeover on May 18, and Comcast Video Plus, which serves ads onto popular non-Comcast sites such as Slate, E! Entertainment, YouTube, and more.

While the online campaign strategy and rain garden creative continue to perform well, results are off compared to last year. Comparing to FY14 results, we purchased fewer web impressions overall (440,000 impressions vs. 700,000 impressions in 2014) in an effort to try some different types of media. This led to fewer clicks during the campaign window.



\*Note: The first 8 days of the Spring 2015 data did not report correctly in Google Analytics.



Spring 2015	
Clicks	1550
Users	1373
Page views	2393

Spring 2014	
Clicks	3112
Users	2784
Page views	6786

Online Media Results				
	Impressions	Clicks	Cost	Cost per Click
WCAX	90,000 impressions	198	\$990	\$5.00
Xfinity*			\$1,990	#DIV/0!
	video pre-roll, 16,300 impressions			
	home page takeover	33		
	Comcast Video Plus, 26,300 impressions			
Front Porch Forum	210,000 impressions	253	\$1,500	\$5.93
Google ad network	pay-per-click	382	\$1,192	\$3.12
Seven Days	100,000 impressions	116	\$1,093	\$9.42
<b>TOTAL</b>		<b>982</b>	<b>\$6,765</b>	<b>\$6.89</b>

#### Top 10 Keywords

1. Gardener
2. Gardening
3. Landscaping
4. Lake Champlain
5. Vermont gardening
6. Gardening in Vermont
7. Rain garden
8. Gardening equipment
9. Rain Water
10. Vegetable gardening

#### Top Referring Sites

1. Smartwaterways.com
2. Wcax.com
3. Sevendaysvt.com
4. Site3.free-share-buttons.com (I'm assuming this is a bot)
5. Fyitv.com
6. Duckduckgo.com
7. Opposingviews.com





8. Pch.com
9. Ci.frisco.tx.us (Municipality)

### **Top Content**

1. Home
2. Solutions/Excess-Stormwater/Rain-Gardens
3. Solutions
4. Resources/Local-Resources
5. Let-it-Rain

### **Location of users**

87.56% of all traffic came from within the United States; 55.01% of US traffic came from within Vermont. Our adjoining states (NY, NH, CT and MA) generated the most traffic behind our home state.

### **FY16 Campaign Recommendations**

Going back to the 2013 survey, responses suggested that there is a general lack of understanding of stormwater issues and how human behavior can impact stormwater and water quality (positively or negatively).

As we move into the FY16 activity year, we can continue to utilize a more online-centric approach to reaching our audience, but shift the message a bit. Building on the popularity of Stormville, RSEP would undertake a theme of a “real-life Stormville” to remind citizens how their actions impact water quality.

During the FY16 plan year, in addition to developing new campaign creative, RSEP should plan to develop a short video (under 2 minutes) that takes homeowners on a tour of things they can do to help slow the flow of stormwater. While there are many examples of videos of this nature, most of them appear homemade or of low quality and are not made in a way that engages viewers on the topic. This video would be a modernized take on the theme that is made specifically to engage the online viewer.

Once videos are completed, RSEP can undertake a partner and media outreach campaign to help drive interest in these topics. By posting links in newsletters, on town websites and social media, and via affinity groups such as Vermont Natural Resources Council or even VTrans and the Agency of Natural Resources, RSEP can continue to drive engagement and behavior change in our core audience. In addition, it will be easy to track our progress by using Google Analytics and tools within YouTube.

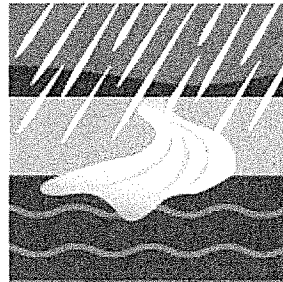


During FY16 RSEP should continue efforts to evaluate the website and continue our efforts to improve communication via the web. Specifically we should focus on content as a next step, and also on navigation improvements.

As always, we'll continue to evaluate past campaigns with an eye toward incremental improvements in our future media plans.



# SMART WaterWays



Add Up To  
Cleaner Water

[ Updated 1-7-16 ]

## Fall 2015 Campaign Results

For this campaign window, we utilized the “In the Fall or Not at All” creative, encouraging homeowners to avoid fertilizing in the spring. We used a small portion of our budget to update the very dated spot to an HD format, improving the visual quality dramatically.

As you can see in the Web Hits Per Year chart, the campaign performed well, in line with 2014 results. (2014 campaigns outperformed all previous campaigns, as we developed more compelling creative and shifted ad spending to online media.) FYI, the 2011 line has been removed from the chart for legibility, but the final web hit count remains in the key below for reference.

There is a discrepancy between the advertiser’s numbers and the Google results that is worth noting. The total clicks shown by our advertising partners (collectively) is greater than what Google reports for the campaign window (1,592 hits shown by advertisers vs. 1,455 shown by Google). As has been discussed many times, any data source is bound to have discrepancies and should be taken as directional, but this was unusual enough that it bears examination.

It’s impossible to say with certainty where the issue lies, but I’d speculate that the Xfinity numbers are off. As you can see below in the Online Ad Results chart, the cost for impressions on Xfinity is much higher than on all other media. However, the amount of clicks outstrips all other media by a significant amount. In Fall 2014, we used a similar strategy and buy with Xfinity, purchasing \$750 worth of pre-roll ads. This buy produced 131 clicks and a \$5.73 cost per click. This is a dramatic difference year over year, calling into question the 2015 results.

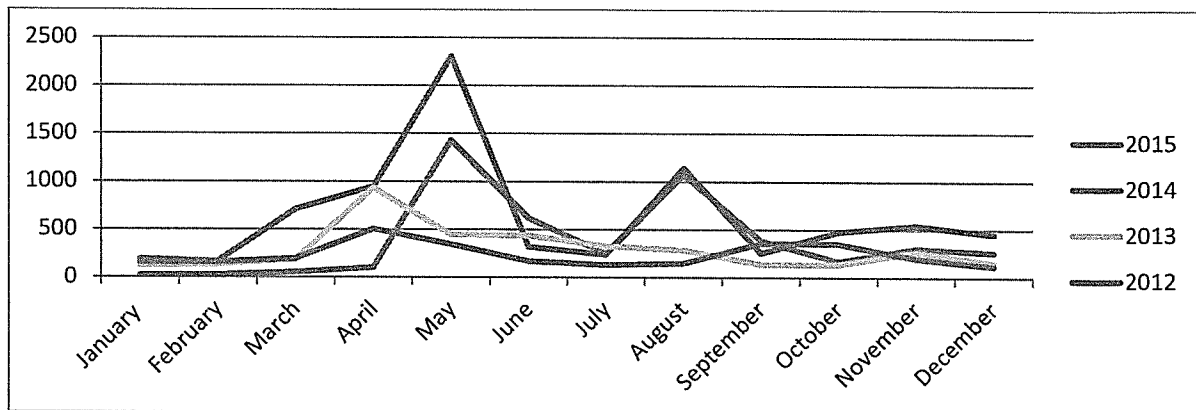
The WCAX online buy also came in at a far lower cost per click than usual, though we were able to buy impressions at a highly discounted rate which of course affects the cost per click.

In the future, I’d recommend against using WFFF/ABC 22 due to its poor result and high cost per click. However, due to other media outperforming expectations, our overall cost per click remained low.

### Online Ad Results

		Cost	Clicks	Cost per click
WCAX	120,000 impressions RSS feed	\$600	316	\$1.90
Xfinity	55,000 video pre-roll impressions	\$1,980	832	\$2.38
Front Porch Forum	50,000 impressions	\$750	77	\$9.74
Google ad network	pay-per-click	\$860	329	\$2.61
WFFF/ABC 22	90,000 impressions	\$700	38	\$18.42
		\$4,890	1,592	\$3.07

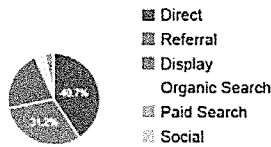
### Web Hits Per Year



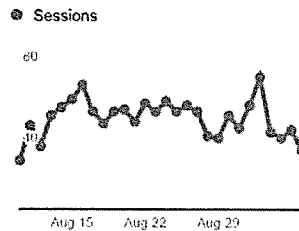
TOTAL	TIME PERIOD
4659	2015
7728	2014
3542	2013
2817	2012
2859	2011

## Google Analytics: Traffic Sources

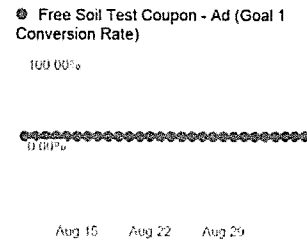
Top Channels



Sessions



Conversions



		Acquisition			Behavior			Conversions		
		Sessions	% New Sessions	New Users	Bounce Rate	Pages / Session	Avg. Session Duration	Goal 1 Conversion Rate	Goal 1 Completion	Goal 1 Value
		1,251	89.05%	1,114	78.42%	1.49	00:00:43	0.00%	0	\$0.00
1	Direct	509			73.28%			0.00%		
2	Referral	390			77.95%			0.00%		
3	Display	269			92.94%			0.00%		
4	Organic Search	44			56.82%			0.00%		
5	Paid Search	35			80.00%			0.00%		
6	Social	4			25.00%			0.00%		

The above chart shows traffic that is generated by RSEP ads versus other sources. At first glance the amount of referral traffic appears minimal. However, in the chart above there are a few additional facts to note. Display and Paid Search are traffic generated by Google Adwords. Also, the Front Porch Forum traffic is included in the Direct category, as we've discussed during previous campaigns. Taken together, the traffic driven by the ad campaign represents 809 hits, or 71% of the traffic during the campaign window. This is consistent with 2014 campaign performance.

110 West Canal Street  
Suite 202  
Winooksi, VT 05404

Date	Invoice #
8/4/2015	81

Bill To
Mr. Brian Osborne Director of Public Works Town of Colchester PO Box 55 Colchester, VT 05468

P.O. No.	Terms	Project
	Due on receipt	

Quantity	Description	Rate	Amount
1	Regional Stormwater Education Program, Year 13  10001634 - 480015 ZC	5,000.00	5,000.00
		<b>Total</b>	<b>\$5,000.00</b>

Data Collection
Education
Erosion Plan Application
Integrated Water Resources Management
Maintenance
Ordinance
Permits
Public Involvement
Reports
Storm Water Permitting Chart
Street Sweeping
Water Quality Results

## Storm Water Maintenance

The Town of Colchester is rich in natural resources. There are approximately 30 miles of shoreline on Lake Champlain, while the arms of Malletts Bay surround almost 10 square miles of the lake.

The Town's southern border has about 9 miles of frontage on the Winooski River, and the northwestern border has about 3 miles of frontage on the Lamolle River. Inland from the lake lies Colchester Pond, a 186 acre water body.

With 165 mapped wetlands, comprising a total of 3,066 acres, and many unmapped wetlands, Colchester has one of the most diversified and valuable collections of habitats in Vermont. For these reasons and many more, Colchester has made water quality a priority for many years. In keeping with these priorities, the Colchester Public Works Department has focused substantial resources on managing storm water runoff within the community

### FAQs

- [What is Storm Water Runoff?](#)
- [Why is Storm Water Runoff a problem?](#)
- [Why and how to manage Storm Water?](#)

[View All](#)



Board & Committee  
Openings

Board of Ethics

Cemetery Advisory  
Committee

Colchester School Board

Community Center  
Initiative

Conservation Commission

Development Review  
Board

Energy Task Force

Governance Study Group

Library Board of Trustees

Planning Commission

Recreation Advisory Board

Selectboard

Storm Water Advisory

## Storm Water Advisory Committee (SWAC)

### Purpose and Need Statement

To create a comprehensive storm water management program which will: 1) provide an adequate and equitable funding mechanism to allow the Town to shift toward more proactive management of storm water infrastructure in Colchester; 2) address and clean up the Town's most critical sources of sediment and phosphorus to local streams and Lake Champlain; and 3) ensure higher quality and better protected surface waters and water resources throughout the Town.

To read the full [Purpose and Need Statement](#) please click [HERE](#)

### Committee Members

- Jeffrey Bartley
- Karen Bates
- Tom Berry
- Theresa Carroll
- Lee Cordner
- James Ehlers
- James Farrington
- Brian Fitzgerald
- Sarah Hadd
- Pam Loranger
- Stephen Roy
- Kathi O'Reilly
- Bryan Osborne
- Marc Saba
- Tom Yasewicz

### Agendas, Minutes & Videos

[Minutes 6-4-15](#)



## **Minimum Measure 2**

### **Public Involvement and Participation**

#### **Attachments:**

1. Storm Water Watch Group Report, Member List and Maps
2. Colchester Conservation Commission (CCC) 2015 Report
3. CCC Events (includes Ads, Articles, and Results)
  - a. Green Up Day
  - b. Rain Garden Spring Cleanup/Refresh
  - c. Rain Barrel Workshop
  - d. De-Poop the Park
  - e. Fall Leaf Collection

### **Storm Water Watch Group Briefing**

Greetings and thank you for agreeing to be a part of a storm water watch group we are assembling throughout the community. The establishment of this citizen network is a key part of our overall water quality plan. Community involvement accomplishes an important component of public education, which is essential to an effective plan.

Your role is to provide your eyes and ears relative to water quality problems in your area, and report them to us. We will then evaluate the problem, and attempt to address it in the best way we can. Periodically, we will send you information that will hopefully assist in your efforts.

Attached to this e-mail, I have included a map that illustrates the sub-watersheds where the full storm water watch group will be established. There are now representatives working in the following water sheds:

- Colchester Pond Brook
- Crooked Creek
- Indian Brook
- Inner Malletts Bay
- Morehouse Brook
- Outer Malletts Bay
- Smith Brook
- Sunderland Brook
- Winooski River
- Gilbrook
- Lake Champlain

One of the leading problems relative to storm water pollution is sediment. Sediment comes from a variety of different sources. We spread sand on the roadways as a part of our winter maintenance operations. In order to prevent this practice from being problematic, it is critical that we have sound street sweeping and basin cleaning programs to remove the sand before it finds its way into a receiving waterway. It also comes from construction sites or other forms of land disturbance, both big and small. When the soil is exposed and it rains, erosion occurs and washes the sand and soil into receiving waterways. It also occurs from channel erosion where storm flows have reached a level where stream channels are being eroded and transferring sediment down stream.

Although a primary concern with Vermont's waterways is sediment, we are also concerned about other pollutants as well that may enter into our storm water systems and waterways. These are referred to as illicit discharges. These are typically discharges to the storm water system that consist of flows other than pure storm water. Examples would include oils, chemicals or untreated sewage.

Generally the types of things you should be looking for are erosion problems, anything other than storm water being placed or directed into the storm water system, or flows coming out of storm water systems during dry weather conditions.

Before you begin thinking that the entire responsibility for water quality monitoring for your area rest entirely on your shoulders, keep in mind that our storm water management plan contains

inspection programs where storm water basins and outfalls are inspected by our staff each year. Land disturbances are required to be permitted through our Planning and Zoning Offices, and are subject to inspection by Town staff. We can not see everything however and will benefit greatly from another set of eyes and ears.

Below are a few links that will provide you with additional information that you may find both informative and useful.

[www.anr.state.vt.us/dec/waterq/stormwater.htm](http://www.anr.state.vt.us/dec/waterq/stormwater.htm)

This link will take you to the storm water section of the Vermont Agency of Natural Resources web-site. Select "Publications" and you will find the Vermont Handbook for Erosion Prevention and Sediment Control.

[www.epa.gov/npdes/pubs/fact2-5.pdf](http://www.epa.gov/npdes/pubs/fact2-5.pdf)

This link will take you to a section of the EPA's site where you will find a fact sheet on Illicit Discharge Detection and Elimination Minimum Control Measure.

[www.smartwaterways.org](http://www.smartwaterways.org)

This web-site has been developed by the Chittenden County Regional Storm Water Education Program, (RSEP), to which Colchester is a member. It has been designed to provide public education on storm water and is advertised through a state wide social marketing campaign.

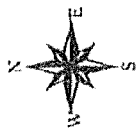
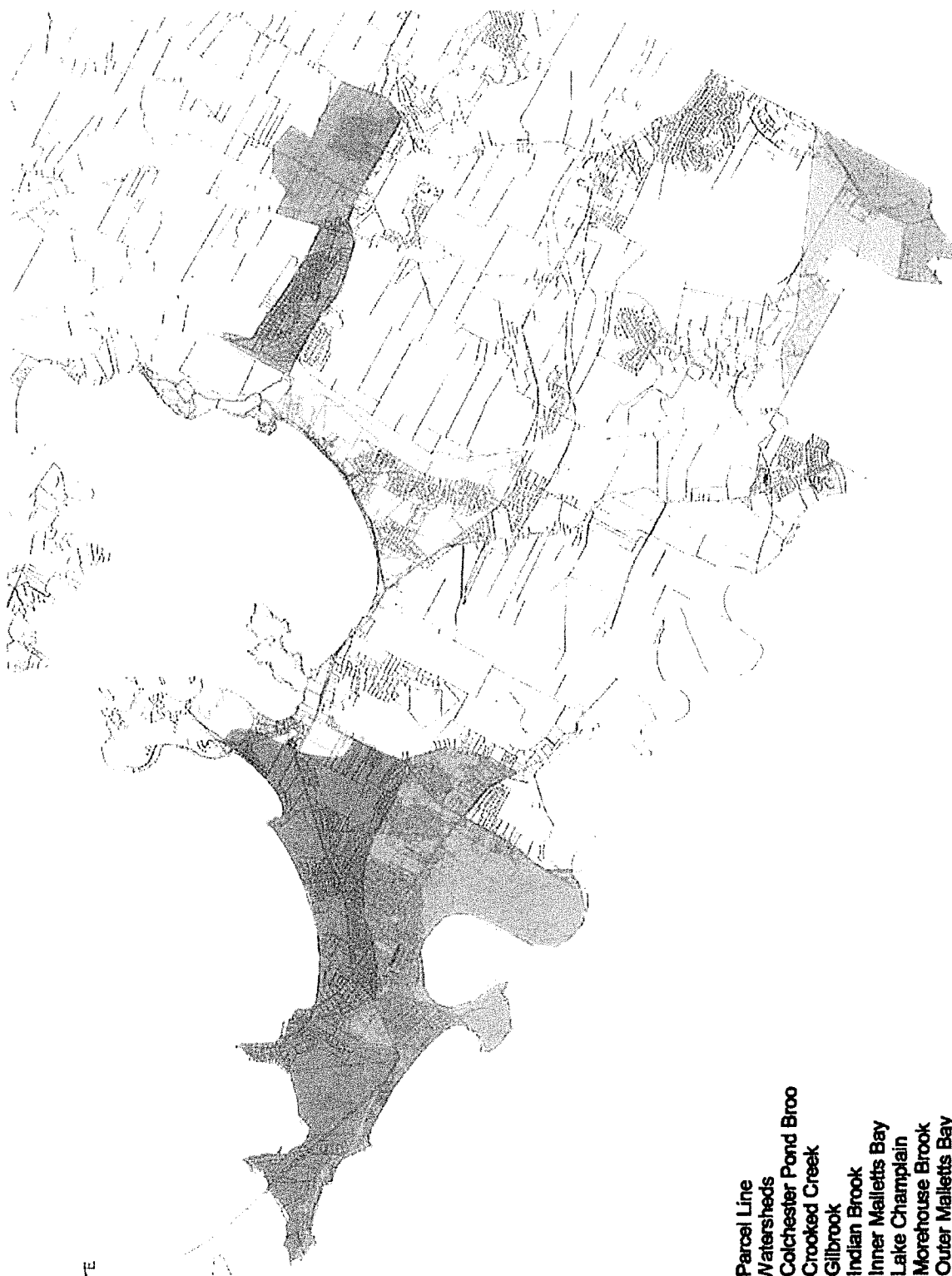
For additional materials that you may find useful, please visit our website at [www.colchestervt.gov/PublicWorks/Stormwater.shtml](http://www.colchestervt.gov/PublicWorks/Stormwater.shtml). Here you will find our NPDES Phase II MS4 General Permit. This is a federal permit we are required to maintain. This document contains our plan that demonstrates compliance to this permit. You will also find our Illicit Discharge Detection Plan and our Storm Water Ordinance. Please feel to look around our site where you will find other useful and interesting information.

Again, thanks for all of your help. Please feel free to contact me anytime at 264-5625 with any questions.

Bryan K. Osborne  
Director of Public Works

## **Storm Water Watch Group**

<b><u>Watershed</u></b>	<b><u>Representative</u></b>
1. Inner Malletts Bay	Tom Berry Moe Germain Anita Socinski
2. Smith Brook	Jeff Barton
3. Colchester Pond Brook	Betsy Orselet
4. Winooski River	Evan Fitzgerald Marc Landry
5. Crooked Creek	Harlan Lachman
6. Indian Brook	Jean Osborne
7. Sunderland Brook	Meg McGovern
8. Morehouse Brook	Sherry LaBarge
9. Outer Malletts Bay	Tracy Byrnes
10. Gilbrook	Alan Dicinson
11. Lake Champlain Watershed	Pam Loranger Buzz Hoerr



- Parcel Line
- Watersheds
- MSA
- Colchester Pond Brook
- Crooked Creek
- Gilbrook
- Indian Brook
- Inner Malletts Bay
- Lake Champlain
- Morehouse Brook
- Outer Malletts Bay
- Smith Brook
- Sunderland Brook
- Winoski River

## CONSERVATION COMMISSION REPORT FOR FY-15

By Theresa Carroll, chair

In FY-15, the Conservation Commission continued its involvement with long-time activities, including coordinating the annual leaf collection weekend and Green Up Day, but also worked with outside agencies on community forestry projects.

The leaf drop off, held the first weekend in November, was a collaborative effort of the Commission, the Town and the Chittenden Solid Waste District. A total of 105.79 tons of leaves were collected and turned into compost by Green Mountain Compost in Williston.

Green Up Day on May 2 attracted 394 volunteers who picked up 5.1 tons of trash, 275 tires and 2 cubic yards of scrap metal. This was the second highest turnout of residents in the 19 years that the Commission has been involved. Colchester also ranked first, out of 18 towns, for collecting the most roadside trash.

The Commission continued its efforts to beautify the town through its yearly maintenance of the rain garden on Holy Cross Road and through participation in Colchester Blooms. The latter, an all-volunteer committee, raises money for the planting and maintenance of flowerbeds in high-traffic areas of Colchester. In June volunteers planted more than 1,200 annuals at five sites including Bayside Park and the Bayside Activity Center.

Colchester was one of 20 Vermont communities selected to participate in the Care of the Urban Forest Project, offered through the Vermont Urban and Community Forestry Program to assist communities in the review or creation of a master tree plan and tree inventory as well as provide training for volunteers in the maintenance and care of town trees.

The Commission also consulted with staff from this program, the Vermont Department of Forests, Parks and Recreation and University of Vermont Extension to draft a town tree ordinance and with Keith Thompson, Chittenden County forester, regarding eradication of an invasive tree species.

The annual Do-It-Yourself Rain Barrel Workshop at Bibens ACE Hardware in April provided an opportunity to educate the public about the importance of installing a rain barrel. The workshop was attended by 12 residents who built their own rain barrels.

Green Up Day:  
Total Materials Collected

TOWN	TRASH (tons)																	AVG
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015		
Bolton	1.1	1.6	2.0	1.7	1.4	2.8	1.6	1.2	1.3	1.0	1.9	1.5	0.70	0.5	1.0	0.5	1.4	
Burlington	5.2	3.1	3.6	2.9	6.0	6.1	6.4	5.6	3.7	6.9	3.8	3.0	4.05	2.7	2.1	4.1	4.3	
Charlotte	2.5	1.6	2.3	3.0	2.4	2.3	2.5	1.8	2.6	1.6	1.3	1.9	2.51	1.9	2.8	1.6	2.2	
Colchester	7.2	3.3	5.8	3.9	3.3	3.4	5.3	2.6	4.6	5.0	4.4	4.4	4.0	3.6	5.5	5.1	4.5	
Essex Town	1.1	2.1	3.2	2.6	3.6	2.6	4.4	3.6	2.2	2.3	0.9	3.5	1.9	12.4	4.2	2.6	3.3	
Essex Junction	0.5	0.6	0.8	1.3	1.1	0.7	0.6	0.4	0.7	0.9	1.7	0.9	0.1	0.3	0.9	0.6	0.7	
Hinesburg	2.8	2.3	4.0	4.2	3.2	2.8	3.2	3.3	2.7	2.5	1.8	2.4	2.1	1.4	2.9	1.8	2.7	
Huntington	0.9	0.9	1.7	1.1	0.8	1.1	0.7	1.1	2.2	0.7	0.0	1.2	0.6	0.6	1.0	0.8	1.0	
Jericho	2.8	0.7	1.4	1.1	1.6	1.7	1.7	2.5	1.8	1.6	1.7	1.1	1.1	1.0	1.4	1.3	1.5	
Milton	4.6	4.1	8.0	2.0	5.6	5.1	4.4	3.1	2.6	4.9	2.9	2.8	2.6	2.3	0.7	2.9	3.7	
Richmond	2.7	2.3	2.6	2.1	2.1	2.7	2.2	3.3	2.0	3.2	1.9	2.9	2.0	1.7	2.3	1.4	2.3	
Shelburne	0.6	0.7	0.4	0.8	0.9	1.1	0.8	1.1	0.8	0.6	0.4	0.5	0.5	0.4	0.8	0.7	0.7	
South Burlington	0.3	0.1	1.5	1.0	1.3	1.3	1.7	0.7	1.4	2.5	2.8	6.1	3.3	2.5	4.5	2.3	2.1	
St. George	0.3	0.3	0.7	0.2	0.3	0.4	0.5	0.6	0.4	0.1	0.1	0.0	0.0	0.0	0.6	0.0	0.3	
Underhill	n/a	n/a	n/a	n/a	1.4	1.3	0.7	1.0	0.5	0.4	0.7	0.4	0.6	0.5	0.6	0.4	0.7	
Westford	3.8	0.6	1.1	0.7	1.9	4.0	2.0	1.0	2.6	1.4	1.2	1.1	0.6	0.8	1.0	1.1	1.6	
Williston	2.3	2.2	1.9	2.2	2.4	1.4	1.7	1.7	1.6	1.6	1.1	1.4	3.0	1.5	2.8	1.6	1.9	
Winooski	10.9	6.0	1.2	2.1	2.1	2.1	0.3	0.6	3.2	1.5	1.2	3.0	2.8	2.1	1.6	0.8	2.8	
State Highway	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.7	0.8	1.0	0.5	0.0	0.7	0.5	1.7	2.0	0.6	
TOTALS	49.7	32.5	42.0	33.0	41.4	42.8	41.7	35.9	37.6	39.5	30.3	38.1	33.2	36.5	38.0	31.7	37.7	

		TIRES (#)																	
TOWN	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	AVG		
Bolton	85	155	86	185	87	0	172	125	80	167	51	90	134	75	125	49	104		
Burlington	81	166	71	241	70	176	53	34	240	249	134	91	102	0	18	0	108		
Charlotte	59	47	87	65	47	107	84	64	96	80	51	119	157	142	143	275	102		
Colchester	410	215	345	242	325	201	303	165	332	291	189	132	321	285	233	275	266		
Essex Town	49	52	160	116	55	8	211	2	97	115	35	145	383	192	215	81	120		
Essex Junction	2	7	11	33	2	3	113	220	3	48	21	14	0	8	10	3	31		
Hinesburg	331	373	193	100	105	110	97	155	251	119	100	51	75	142	93	101	150		
Huntington	111	30	150	37	19	37	36	103	85	100	24	31	52	54	52	19	59		
Jericho	54	48	93	4	61	35	47	74	66	74	49	83	39	39	73	64	56		
Milton	660	150	0	180	178	198	124	187	195	270	177	189	0	167	300	181	187		
Richmond	109	60	81	75	243	36	86	84	165	73	64	79	159	154	273	209	121		
Shelburne	16	13	19	11	84	125	60	165	61	78	82	147	147	59	133	119	82		
South Burlington	0	20	18	3	18	127	6	19	57	107	162	46	2	62	182	137	60		
St. George	2	16	14	5	0	10	0	0	9	14	0	0	0	0	0	0	4		
Underhill	n/a	n/a	n/a	n/a	10	98	92	134	156	238	33	60	208	66	140	117	113		
Westford	637	127	17	74	32	0	0	135	208	101	97	187	0	208	118	161	131		
Williston	17	31	105	32	36	63	33	10	52	41	87	5	212	45	136	25	58		
Winooski	17	18	5	18	13	0	0	1	4	9	12	10	73	67	51	0	19		
State Highway	0	0	0	0	0	0	212	97	177	37	336	289	270	461	353	442	168		
TOTALS	2,640	1,528	1,455	1,421	1,385	1,334	1,741	1,764	2,335	2,212	1,703	1,778	2,335	2,227	2,648	2,258	1,922		

		METAL (cubic yards)																	
TOWN	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	AVG		
Bolton	0.0	0.0	0.0	d/k	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3		
Burlington	5.5	14.0	5.5	3.4	11.3	4.0	6.0	0.0	0.0	0.0	4.0	0.5	0.1	0.0	1.5	0.0	3.5		
Charlotte	4.0	5.0	3.5	6.0	8.0	1.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1		
Colchester	0.0	0.0	1.0	8.0	0.5	0.0	5.0	2.0	1.0	3.3	0.0	0.1	0.0	2.5	3.5	2.0	1.8		
Essex Town	2.0	7.0	9.0	7.0	4.5	6.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2		
Essex Junction	1.0	0.5	1.0	0.5	1.0	0.0	0.0	2.0	0.3	1.0	0.0	0.5	0.5	1.0	1.0	0.0	0.6		
Hinesburg	6.3	7.0	6.5	7.0	7.0	3.0	5.0	4.0	2.0	2.0	2.8	0.0	0.9	0.0	0.0	0.0	3.3		
Huntington	8.0	6.0	9.5	d/k	4.0	2.0	1.0	1.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	2.3		
Jericho	6.0	7.0	6.5	1.0	5.0	5.0	4.3	2.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4		
Milton	0.0	0.0	0.0	12.0	3.0	3.2	5.0	7.0	2.0	4.0	1.8	2.0	0.0	0.0	0.0	0.0	2.5		
Richmond	0.0	0.0	3.5	d/k	0.0	0.0	1.0	1.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5		
Shelburne	0.3	1.0	3.5	1.0	0.3	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5		
South Burlington	0.0	0.5	3.5	1.0	0.5	2.0	0.0	2.0	1.0	6.0	9.0	0.0	0.0	0.0	0.0	0.0	1.6		
St. George	2.5	3.0	3.0	1.0	0.3	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5		
Underhill	n/a	n/a	n/a	n/a	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5		
Westford	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Williston	2.5	5.0	3.5	3.5	1.3	1.5	0.5	0.3	0.1	1.5	0.0	0.2	0.0	0.0	0.5	1.5	1.4		
Winooski	0.0	0.0	28.6	10.7	d/k	0.0	0.5	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	2.9		
State Highway	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1		
TOTALS	38.1	56.0	85.1	62.1	69.6	34.7	28.3	20.6	17.4	17.8	23.9	3.3	1.0	3.0	6.5	3.5	29.4		



NEW DOORS!

after

for a FREE estimate .1400

to update the home so in 3 hours with instruction.

ING MAKEOVER SALE

### Legalizing marijuana

In response to a local businessman who expressed concern at the Rotary luncheon over the possibility that the state will legalize marijuana, Shumlin repeated his belief that it is better to regulate and tax the drug.

"Prohibition has failed us," he said, telling the audience that underage drinkers have a much harder time getting alcohol because it is regulated, but that it is easy for them to get pot because no one is asking for an ID.

Shumlin then gave

Gov. Peter Shumlin visited a joint meeting of the Essex and Colchester Rotary clubs last week to discuss the wide range of challenges the state is facing.

PHOTO | PAT SPIELMAN

a mini-history lesson on heroin and how the state is struggling to deal with Oxycontin — which he called heroin in pill form.

He said heroin is a "much bigger problem" than marijuana; claiming that a significant percentage of babies born in Vermont are addicted to opiates at birth.

"When these kids show up at school, they require a lot of resources," the

governor said. "...We have to look at the way that we are dealing with addiction."

When it comes to marijuana, Shumlin said he prefers other states — those that have already legalized the drug, such as Colorado and Oregon — to figure out the best way to regulate it.

"In this area, I am happy for Vermont to be a follower," Shumlin said.

### GOING FOR THE GREEN



Colchester resident Joe Ryan picks up trash outside his home during Green Up Day on Saturday, May 2. Ryan was one of 382 volunteers who participated in the annual Vermont tradition of cleaning up trash that has accumulated over the long winter. According to Colchester Green Up Day Coordinator Tim Moran, a member of the town's Conservation Committee, three tons of trash were collected and 663 bright green trash bags were given out this year. Moran said the event was a success due to the efforts of the committee members, town officials and the local volunteers.

PHOTO BY MONICA DONOVAN



---

**From:** Joe Sinagra [<mailto:myers11@sover.net>]  
**Sent:** Thursday, May 07, 2015 12:47 PM  
**To:** Robin Parry  
**Subject:** RE: Green Up Dumpster

The weight on the container was 4.15 tons

---

**From:** Robin Parry [<mailto:RParry@colchestervt.gov>]  
**Sent:** Monday, May 04, 2015 3:39 PM  
**To:** Joe Sinagra - Myers Container Service ([joe@theredcanfamily.com](mailto:joe@theredcanfamily.com))  
**Subject:** Green Up Dumpster

Hi Joe,

Would it be possible to get a weight on the green-up dumpster when its filled with trash?

Thanks,  
Robin

<image001.png>

<image002.png>



**Robin Parry**  
Administrative Coordinator

Town of Colchester  
781 Blakely Rd. | P.O. Box 55  
Colchester, Vermont 05446  
P: 802.264.5620 | F: 802.264.5503

[rparry@colchestervt.gov](mailto:rparry@colchestervt.gov)

*Notice – Under Vermont's Public Records Act, all e-mail, e-mail attachments as well as paper copies of documents received or prepared for use in matters concerning Town business, concerning a Town official or staff, or containing information relating to town business are likely to be regarded as public records which may be inspected by any person upon request, unless otherwise made confidential by law. If you have received this message in error, please notify us immediately by return email. Thank you for your cooperation.*

## Warner Rackley

---

**From:** Floyd Sheesley  
**Sent:** Monday, May 04, 2015 3:37 PM  
**To:** Warner Rackley  
**Subject:** Green up day

Warner,

I have 4 scale tickets from CSWD totally 2.96 tons of tires & metal waste that we picked up today. I will double check with the guys in the morning if there were any other loads.

Dawn wanted to know how much was picked up could you please forward this info. We also completely filled the dumpster. I am not sure if Myers will get us a weight when they pick it up or not. If I hear anything I will let you know.  
Thanks

Floyd Sheesley  
Operations Manager  
Town of Colchester - DPW  
Office 802-264-5621  
Cell 802-316-1046

## Warner Rackley

---

**From:** Floyd Sheesley  
**Sent:** Thursday, May 07, 2015 1:39 PM  
**To:** Warner Rackley  
**Subject:** Re: Green Up Dumpster  
**Attachments:** image003.png

This is in addition to what we hauled.

Floyd Sheesley  
Operations Manager  
Town of Colchester - DPW  
Office 802-264-5621  
Cell 802-316-1046

On May 7, 2015, at 1:22 PM, Warner Rackley <[WRackley@colchestervt.gov](mailto:WRackley@colchestervt.gov)> wrote:

Floyd,

Was this in addition to the four ticket loads from the other day or is this the total?

Thanks,  
Warner

---

**From:** Floyd Sheesley  
**Sent:** Thursday, May 07, 2015 12:58 PM  
**To:** Warner Rackley  
**Subject:** FW: Green Up Dumpster

I think that you use this info for the MS4 Permit report. Also Dawn asked for this info. Could you please forward this along with the other info that I gave you earlier this week.

thanks

Floyd Sheesley  
Operations Manager  
Office 264-5621  
Cell 316-1046

---

**From:** Robin Parry  
**Sent:** Thursday, May 7, 2015 12:56 PM  
**To:** Floyd Sheesley  
**Subject:** FW: Green Up Dumpster

Floyd,

The weight of the waste for Green-Up Day was 4.15 tons.

Thanks,  
Robin

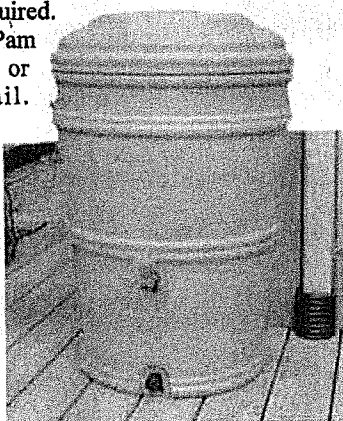
## Register for rain barrel workshop

A Build-Your-Own Rain Barrel Workshop will be offered on April 20 from 5:30-7 p.m. at Bibbens Ace Hardware, 713 West Lakeshore Drive in Colchester.

The cost is \$30 (payable by cash or check at the workshop), which covers all supplies and instruction to make and install a 55-gallon rain barrel. Although there's a limit of one barrel per household, couples or families may work on the project together.

Preregistration is required. If interested, contact Pam Loranger at 846-7313 or [pamforcolchester@gmail.com](mailto:pamforcolchester@gmail.com). If registering by e-mail, put "Rain Barrel Workshop Registration" in the subject line. Space is limited to the first 15 people to sign up, so early registration is advised.

The workshop is sponsored by the Colchester Conservation Commission in collaboration with the Colchester Department of Public Works. In addition to constructing a rain barrel to take home, participants will learn how capturing rainwater to use in landscapes and gardens will help save money, conserve water and reduce runoff of stormwater into nearby streams and rivers.



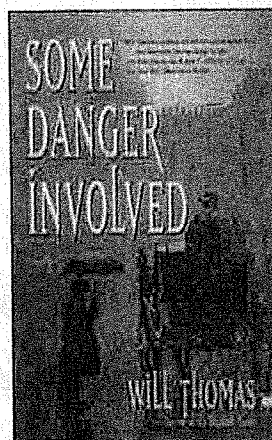
## Burnham Memorial Li



**"Beautiful Music for Ugly Children"**  
by Kristin Cronn-Mills  
Young Adult Fiction, 2012

*Reviewed by Kelsey Lowe, Young Ad*

Elizabeth/Gabe is a beautiful soul and growing up, Gabe runs his own neighborhood. His show's fans, The Ugly and his message. Gabe is strong, passionate, fall in love with and root for as he still and new life, while bravely following show host and producer. Full of play music history, this novel is a sweet v



**"Some Danger Involved,"**  
by Will Thomas  
Adult Fiction, 2004

*Reviewed by Susan Gamberg, Youth*

Victorian London and the Jewish down on his luck after being thrown for theft, when he answers an employer hires him on as his new "assistant". murdered, crucified in an alley, and Moses Montefiore (unofficial ambassador). As Thomas investigates the crime, the London underworld, a part of. If you enjoy Thomas's book

## ICE CREAM LASAGNA

Serves 16

### Ingredients

- 46 frozen ice cream sandwiches
- 1 (16 oz) container frozen whipped topping
- 1 package Oreo cookies crushed
- 1 cup of chopped walnuts
- 1 cup sliced maraschino cherries
- 1 cup hot fudge sauce

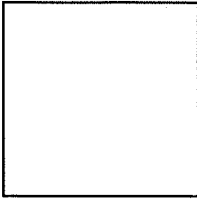
### Directions

In a 9-by-13-inch baking pan line the bottom with ice cream sandwiches. Layer with half of the whipped topping, chopped walnuts, cherries and crushed cookies. Repeat with remaining ingredients

for second layer. Place in freezer for 10-15 minutes before serving. Top with hot fudge sauce and enjoy. This recipe could be easily cut in half with only one layer of ingredients.

**Editor's Note:** This is one of the many recipes that will be featured in the local cookbook "Recipes from the Heart." Team Colchester CANSur-vive is putting together a cookbook of recipes from those touched by cancer. The book costs \$15 and will be available in August. All proceeds from book sales will benefit American Cancer Society's Making Strides Against Breast Cancer. For more information or to preorder a copy of "Recipes from the Heart" email [colchester cansurvive@gmail.com](mailto:colchester cansurvive@gmail.com).





POST A NOTE TO YOUR NEIGHBORS

ISSUE NO. 999  
MARCH 30, 2015

## Malletts Bay Neighborhood Forum

### Pet Sitter Recommended

AMANDA ROYER – RENKIN DRIVE

### State Budget

MAUREEN DAKIN – STATE REPRESENTATIVE, CHITTENDEN-9-2

### Registration for Rain Barrel Workshop

LISA HALVORSEN – SUMMIT RIDGE

### Therapeutic Foster Care Open House April 7

RYANE SEVERIN – LILAC ST

### Town Newsletter is Now Available

LINDA KINGSTON – MANAGEMENT COORDINATOR, TOWN OF COLCHESTER

### Cookbook Fundraiser to Honor Those Who Have Battled Cancer

ROBIN PARRY – ADMINISTRATIVE COORDINATOR, DEPARTMENT OF PUBLIC WORKS, COLCHESTER

### News from Neighboring FPFs

POSTINGS FROM: BAY CREEK, CLAY POINT, COLCHESTER VILLAGE, COLCHESTER WEST

**Have your kids outgrown their sports gear? Sell or trade via FPF.**

### **Thanks to this week's FPF sponsors:**

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<http://porch.ly/BTVPRWaprilcamps/1301/>

#### SIGN UP NOW FOR FREE WELLNESS CLASSES - FROM UVM MEDICAL CENTER!

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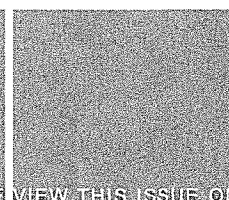
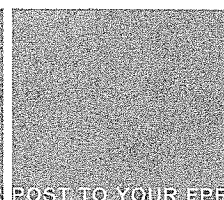
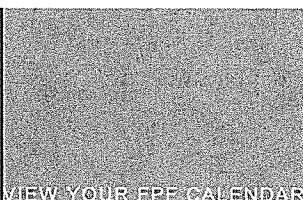
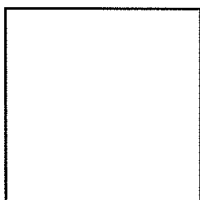
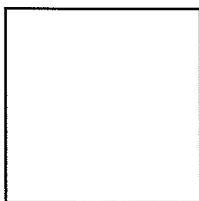
<http://porch.ly/UVMMedCenter/1294/>

#### TAX REFUND? SAVE FOR COLLEGE WITH VHEIP!

Consider using your refund to save for your child's college education with Vermont's state-sponsored 529 college savings plan. Go to [www.vheip.org](http://www.vheip.org) to open an account today for as little as \$25!

<http://porch.ly/VHEIPsaveforcollege/883/>

#### Advertise on Front Porch Forum



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## Pet Sitter Recommended

AMANDA ROYER, [AMANDADROYER@GMAIL.COM](mailto:AMANDADROYER@GMAIL.COM), RENKIN DRIVE

We use Tip of the Tail for both dog walking and pet sitting. Janna and her team are amazing and we would highly recommend them!

[EMAIL AUTHOR](#) [REPLY TO FORUM](#)

## State Budget

MAUREEN DAKIN, [MPDAKIN@COMCAST.NET](mailto:MPDAKIN@COMCAST.NET), STATE REPRESENTATIVE, CHITTENDEN-9-2

In response to a previous post: Let's get it straight. The general fund is one of several. All considered the increase is about 1.6 percent that begins to bend the curve on spending. The general fund includes the transportation budget from the committee that Rep. Brennan chairs. That budget had cuts as well as most others. Pat and committee did a fine job so of course he was going to vote for the budget! It's a bit disingenuous to imply that republicans are the only ones with fiscal responsibility. Throughout the day most of them voted for every amendment that would increase the budget so they could ultimately vote "no" on an even larger budget itself! I clarify these points to encourage you to get your information from various sources to form your own opinions. I personally think VT Digger is a balanced news source with in depth reporting.

[EMAIL AUTHOR](#) [REPLY TO FORUM](#)

## Registration for Rain Barrel Workshop

LISA HALVORSEN, [LHALVORS@UVM.EDU](mailto:LHALVORS@UVM.EDU), SUMMIT RIDGE

A Build-Your-Own Rain Barrel Workshop will be offered on Monday, April 20, from 5:30-7 p.m. at Bibbens Ace Hardware, 713 West Lakeshore Drive in Colchester. The cost is \$30 (payable by cash or check at the workshop), which covers all supplies and instruction. Although there's a limit of one barrel per household, couples or families may work on the project together.

The workshop is sponsored by the Colchester Conservation Commission. Preregistration is required. If interested, contact Pam Loranger at 846-7313 or [pamforcolchester@gmail.com](mailto:pamforcolchester@gmail.com). . If registering by e-mail, please put "Rain Barrel Workshop Registration" in the subject line. Space is limited to the first 15 people to sign up, so early registration is advised.

[EMAIL AUTHOR](#) [REPLY TO FORUM](#)

## Therapeutic Foster Care Open House April 7

RYANE SEVERIN, [RYANESEVERIN@GMAIL.COM](mailto:RYANESEVERIN@GMAIL.COM), LILAC ST

Howard Center is hosting a Therapeutic Foster Care Open House on Tuesday, April 7th from 6pm to 7:30pm at Child, Youth and Family Services, 1138 Pine St. Burlington, VT.

Whether you have a few hours over the weekend or are looking to parent a child full-time, join us to discuss the many ways you can make meaningful connections with children in your community! You don't need to be rich, married or own a home. You will be supported every step of the way.

We will start an information session at 6:30pm followed by time for questions. Don't hesitate to call or email with questions about the Open House or the children we support here at Howard Center. Please forward this message to any and all who might be interested in providing support for children ages 6 to 15 in your community. Hope to see you there!

802.488.6742

[knee@howardcenter.org](mailto:knee@howardcenter.org)

RSVP's appreciated!

[EMAIL AUTHOR](#) [REPLY TO FORUM](#)

## Town Newsletter is Now Available

LINDA KINGSTON, [LKINGSTON@COLCHESTERTV.GOV](mailto:LKINGSTON@COLCHESTERTV.GOV), MANAGEMENT COORDINATOR. TOWN OF COLCHESTER

The Colchester Town newsletter for the week ending 3.27.14 is now online. This week features the Colchester Police Department and Rescue. You may read it here:

<http://colchestervt.gov/WeeklyNewsletter/TownWeeklyNewsletter03-27-15.pdf>

[EMAIL AUTHOR](#) [REPLY TO FORUM](#)

## Cookbook Fundraiser to Honor Those Who Have Battled Cancer

ROBIN PARRY, [RPARRY@COLCHESTERTV.GOV](mailto:RPARRY@COLCHESTERTV.GOV), ADMINISTRATIVE COORDINATOR, DEPARTMENT OF PUBLIC WORKS, COLCHESTER

Team Colchester CANSur-vive, a local team raising money for Making Strides Against Breast Cancer, is creating a unique cookbook "Recipes from the Heart". This cookbook will be a touching keepsake, which will include wonderful recipes inspired by our loved ones who have or are now battling cancer, as well as funny and poignant stories about them. We believe each story, from profound to funny, helps to provide a wonderful mix of awareness, insight, and relevance.

If you would like to contribute a recipe and story in support of someone you love that has been touched by cancer (any type of cancer) please email Colchester CANSur-vive at [colchesterkansurvive@gmail.com](mailto:colchesterkansurvive@gmail.com). There is no charge for recipe and story submissions.

Cookbooks will be available for sale in August at a cost of \$15.00 each. Quantities are limited so pre-ordering is strongly encouraged.

All proceeds from the cookbooks will go to the American Cancer Society's "Making Strides Against Breast Cancer".

Last year Team Colchester CANSur-vive rose over \$15,000 to support Making Strides Against Breast Cancer by hosting local events such as Pink Out the Park a 5K Walk/Run at Bayside Park in Colchester.

[EMAIL AUTHOR](#) [REPLY TO FORUM](#)

## News from Neighboring FPFs

### Colchester Village FPF

PRESSURE TREATED POOL DECK FREE BY WENDY YARNELL [READ POST \(AND 3 MORE\) »](#)

### Colchester West FPF

SEEKING BABY BACKPACK BY ELIZABETH DULING [READ POST \(AND 3 MORE\) »](#)

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# OPINION

## Perspective

### No excuse for leaving dog poop

Well, you knew it was coming: the annual "pick up poop in the park" article. Those of you who do not have a dog, feel free to jump past this poop section. For those who do, and particularly those who do not pick up after their dogs, read on. **Lisa Liotta**, park ranger at Niquette Bay State Park and a member of the Colchester Parks and Recreation Committee and Conservation Commission — so no slouch on this subject — wrote an article published by *The Colchester Sun* a while back on just this issue. Here's the problem she says — the EPA says pet waste is 57 percent more toxic than human waste and in two or three days, 100 dogs can produce enough bacteria to close a small bay with a 20-square-mile watershed to swimming and fishing. She goes on to say, "Dog feces contain high concentrations of nutrients (nitrogen and phosphorus) and pathogens (bacteria, viruses, worms and parasites) that can cause serious illness in humans and pets. Once the poop makes its way to the water (and most of our parks are on some body of water), it can kill fish, create E-coli, feed algae blooms and create a host of other unpleasant and harmful effects."

Knowing this, why are you not picking up after your pet? Maybe some of you think your dog is such a perfect little critter that their poop could never do any harm to the environment. Maybe you feed your pet organic dog food, or saute the hamburger or chicken yourself — what could be harmful? No, no, no — nice try, no cigar — their poop is harmful! It's simple really — the town provides **FREE**, no charge, gratis, no cost to you, doggie bags at our parks. Garbage cans are all over the place. The action itself takes just 30 seconds, and **you will feel good** all day for having done the right thing.

As the snow has been melting, there is surfacing a ton of poop (well, maybe not a ton, but a lot) at Airport Park, and elsewhere. Given the harmful health effects to the waterways, humans and other pets (my dog, for instance, picked up worms — according to the Vet — from just sniffing another dog's poop), the solution is simple. Use the **FREE** bags, drop the used ones into the pails provided, or bring them home to your own garbage can. From there, you can rest assured that they will be safely contained in

### COLCHESTER'S CHRONICLER

Inge Schaefer



## Letters To The

### Closing time for Project Inside Out

I find myself in the minority but I support Project Inside Out coming to a close. I feel compelled to share my observations while I worked as the administrative assistant to the principal at Porters Point School from 2004-2014.

I witnessed years of parents being asked to not only buy, but sell, fundraiser items to raise the enormous amount of money it took to run the last four days of school. An important fact to consider is PPS has an exceptionally high rate of students who are on the free/reduced meal program. That means they are defined as living in poverty.

I saw many fundraiser order forms come back from these struggling families with purchases because the students wanted to pass in an order sheet. We hit up families for so many costs — yearbooks, field trips, school pictures etc.

PIO was incredibly taxing on the staff and left them divided. There were a lot of tears shed by staff who finally got the courage to voice their opinions. I witnessed the tremendous chaos that resulted when our special education students' routine was turned upside down for PIO. The special educators were stretched beyond their limits and it was a very difficult end to the school year.

Parents weren't privy to the behind the scenes stress on the staff because the staff at Porters Point is exceptional. They are determined, whether they are for PIO or not, to give 110 percent to the kids during PIO.

Alternate ways of learning are important and beneficial, but with the large cost of PIO, it's prudent to explore other less costly approaches that will deliver the same (if not better) results and work for the staff.

Marjorie Burgess  
Easton, Mass.

### Vouching for Project Inside Out

I was the first school counselor at Porters Point School

## From the Sta

This winter was cold and long. The same can be said



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With one 65-degree day under our belts, we can officially rejoice that it's SPRING! That being said, what better pastime in spring than fishing? Brian Chipman of Vermont Fish and Wildlife in Essex suggests that anglers should head out on Lake Champlain for salmon and lake trout once the ice is melted, especially in the shallower waters off the mouth of the Winooski River and along the old railroad fill between Colchester and South Hero (otherwise known as the Causeway Bikepath). He says walleye season is currently closed for the spawning period, but the Winooski River and Lamoille River will offer good walleye fishing later in the spring when the season opens again on May 2. While fishing off a boat may be more popular, Chipman says there are also good areas to fish for walleye and other species off the river banks. He suggests the Vermont Fish and Wildlife access area at the end of Windemere Way and the town property by the Heineberg Bridge, off Heineberg Road (on the way to North Avenue). There is also a Fish and Wildlife access area on the lower Lamoille River. Check this website for more info: [vtfishandwildlife.com/fishing/lowerWinooski.cfm](http://vtfishandwildlife.com/fishing/lowerWinooski.cfm) or [lowerlamoillemo.cfm](http://lowerlamoillemo.cfm).

A pristine, oft-forgotten area, is Colchester Pond off East Road in the Village – a good spot to go with the kids, says Chipman. "The plentiful sunfish and yellow perch there can be caught from shore or by canoe, and smallmouth bass and northern pike may also be caught there," adds Chipman. Ace Hardware on Lakeshore Drive has fishing licenses, but Chipman says it is easy to buy one online, as follows: [vtfishandwildlife.com/buylicense/cfm](http://vtfishandwildlife.com/buylicense/cfm). Some dates to remember April 25-26 youth turkey weekend; June 1-30, spring turkey hunting; muskrat hunting goes until April 19; April 11-June 12, bass catch-and-release season; April 11-Oct. 31 trout and salmon; May 1-March 15, 2016, walleye; June 13-Nov. 30, large and smallmouth bass. Have fun!

Here are some other dates you might want to remember – the 4<sup>th</sup> Annual Build Your Own Rain Barrel Workshop, will be held Monday, April 20 at Ace Hardware from 5:30-7 p.m. The cost is \$30 which covers all supplies and instruction. There is a limit of one barrel per customer. Contact Pam Loranger, 846-7313 to reserve your spot. There's only room for 15, so call now. This and Green Up Day on May 2 are run by the Conservation Commission. A "Half Marathon Unplugged" will be held at Airport Park on April 11, beginning around 9 a.m. I believe it's a Run Vermont event – call 863-8412 for more info. There's always something going on through the Parks and Recreation Department as well, so check their website: [www.colchestervt.gov](http://www.colchestervt.gov).

The Winter/Spring 2015 St. Michael's Alumni Magazine is out and in it is a fond farewell to long-time employee and Colchesterite Marilyn Cormier. Marilyn serves as the college's director of government and community relations and has worked there for more than 33 years. The article mentioned a long list of local community service work that she has done – from being president of the Colchester/Milton Rotary, serving on the Vermont Council on World Affairs, YMCA and Mercy (for the Sisters of Mercy) Boards, etc.

I was fortunate to get to know her when I was coordinating the year-long Colchester 250<sup>th</sup> Anniversary celebration.

Marjorie Burgess  
Easton, Mass.

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## Vouching for Project Inside Out

I was the first school counselor at Porters Point School

# From the State

Joey  
Purvis



This winter was cold and long. The same can be said for the state budget process. From the first week I arrived at the Statehouse, the talk was all about how much money we needed

and how much we didn't have. The first of many money bills was the fee bill. This bill sets business, professional and permit fees across the state. I voted for the amendment, which would have increased costs by about 4 percent, which was more in line with the cost of living; however, the bill passed with an average 18 percent increase. I did not support this increase, which will be passed onto Vermonters.

H 488, which I voted for, was the transportation budget, passing through the House easily. The Transportation Committee, chaired by another Colchester representative, did a great job of keeping costs down even with lower fuel taxes available.

H 35, the so-called clean water bill, was introduced in the Agriculture and Forestry Committee, on which I serve. From the first week in the Statehouse we heard extensive expert testimony from the Vermont Agricultural Department, environmental groups, and most of all, farmers. Our committee is made up of a tri-partisan group that voted unanimously to send the bill to the Fish and Game Committee for final approval and then to the House floor. With the "all-in" approach of several

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*"Farms of all sizes now have to meet agricultural practices be certified not to pollute waterways that feed Champlain. There are other measures in place that will help make the lake healthy for our kids and our economy in the future."*

Joey Purvis

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## THE COLCHESTER SUN

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I was fortunate to get to know her when I was coordinating the year-long Colchester 250<sup>th</sup> Anniversary celebration in 2013. Initially I was nervous at the extent of the undertaking. Many good people, however, stepped up to help, but the signature event — the June 7 Charter Day loomed with no specific leader. At an early meeting of the whole 250<sup>th</sup> committee, she quietly asked me: "Would you like me to chair that event." She had just helped orchestrate the St. Mike's College Centennial in 2004, not to mention their graduations and special college events, and here she was asking me if she could head up that portion of our year-long celebration. Of course, and she did, and it was great.

St. Mike's President Jack Neuhauser says of her, "she taught us all grace," and he's right. There's no doubt that St. Mike's will miss her, but so will we all. Best wishes as she begins a new stage of her life and a huge thank you for all her efforts on our behalf.

Enjoy the warming weather and God Bless! E-mail me your news tips at [ingevt@comcast.net](mailto:ingevt@comcast.net).

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and how much we didn't have. The first of many money bills was the fee bill. This bill sets business, professional and permit fees across the state. I voted for the amendment, which would have increased costs by about 4 percent, which was more in line with the cost of living; however, the bill passed with an average 18 percent increase. I did not support this increase, which will be passed onto Vermonters.

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## THE COLCHESTER SUN

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Phone: 878-5282  
Fax: 651-9635

**Published Thursdays**  
Advertising deadline:  
Friday 5 p.m.

**Subscription rate:**  
\$75 per year  
\$38 for six months

The Colchester Sun is owned and published by Angelo Lynn and Emerson Lynn of Lynn Publications, Inc. and is a member of the Champlain Valley Newspaper Group. The Colchester Sun makes every effort to be accurate. If you notice an error, contact us at 878-5282 or by e-mail at [news@colchestersun.com](mailto:news@colchestersun.com).

# WEEKLY TownNews



ile by no means a total representation of all the work performed by the Town, the  
wing highlights some Departments' activities:

## TOWN MANAGER'S OFFICE

orted by Dawn Francis, town manager  
behalf of the selectboard, we extend our gratitude to Colchester's dedicated and hard-  
king employees and our over 300 volunteers who serve on boards and committees, as  
as coach and support the Town's many recreational offerings. Our recent recognition  
ived by Money Magazine as the 40th Best Place to Live in America is partially due to  
e individuals who give selflessly of their time, energy and expertise.

py Thanksgiving!

more information about the Town Manager's Office, please visit <http://colchestervt.gov/>  
iager or call (802) 264-5509.

## INHAM MEMORIAL LIBRARY

orted by Kelly Tomaseski, Director

Thanksgiving greetings from the Burnham Memorial Library! We hope that everyone will have a nice  
day. The library will close at 5 p.m. on Wednesday, Nov. 25 and be closed on Thanksgiving  
the day after (Thursday and Friday, Nov. 26 and 27). We'll be open our normal hours, 9  
-3 p.m., on Saturday, Nov. 28.

are a few of our upcoming events:

ristmas Tree Lighting & Caroling – Sunday, Dec. 6, starting at 4 p.m. – It's that time  
year again! Gather for crafts, songs, cocoa, cookies, and lights on the tree. At 4 p.m.,  
children can make a holiday craft in the library. Around 4:30 p.m., we'll all sing with the  
Colchester Community Chorus at the Meeting House. The annual tree lighting follows  
inside around 5 p.m. No sign-up required.

ngerbread House Contest – Build a tasty gingerbread structure and bring it to the  
rary for our annual contest. Entries may be dropped off beginning Dec. 1 and voting  
arts Dec. 7. Entries will be accepted after voting begins. We'll display your creations and  
ry entrant will be eligible for a raffish basket of goodies. Gingerbread kits are welcome,  
id family entries are very much encouraged. Guidelines and entry forms are available at  
e library or from our website.

der & Cookie Week – Dec. 7-11. Stop in for homemade cookies and spiced cider,  
mpliments of library staff!

ult Book Discussion – Tuesday, Dec. 15 at 1 p.m.: The 2015 VT Humanities Council  
rmont Reads book is "Haroun and the Sea of Stories," by Salman Rushdie. Kelly will lead  
conversation about stories and themes in the book and how these issues have affected  
rld citizens. Join us and share your opinions about the book! Copies are available at the  
rary.

se Vermont Health Connect Enrollment Event: Monday, Dec. 14, 5-8 p.m. Get  
ormation and assistance enrolling in health insurance coverage from a Vermont Health  
nnect Navigator. Dec. 15<sup>th</sup> is the enrollment deadline for new or renewal coverage, to  
e effect on Jan. 1, 2016. Contact [navigator@vcoe.org](mailto:navigator@vcoe.org) or 860-1417 x115 for more  
ormation about this event or free Navigator services.

en Tinker Tuesday: Making Gifts – Tuesday, Dec. 15 at 4:30 p.m. This month, Teen  
ker invites our younger friends to join us in creating items that could be great holiday  
ts. We'll be making boxes, jewelry, cards, and other fancy things. Please register at our  
bsite to reserve your spot—supplies are limited! For kids & teens of all ages.

ore information about Burnham Memorial Library's events and services, visit <http://estervt.gov/library> or call (802) 264-5660.

## CS AND RECREATION

ted by Glen Cuttitta, director

ollowing is a small sampling of tasks completed by our department:

Artistic Bike Racks have been installed at Bayside and Airport Parks  
New Park Maintenance Building construction is progressing: concrete work is  
complete and steel work will begin this week

New roof on lower Bayside Park Bath House was completed

Leaf Drop Off weekend yielded over 100 tons of leaves

Parks staff assisted Eagle Scout Aric Donerkel with a bench project at Airport  
Park

Bayside dinghy dock has been permitted and purchased; installation is scheduled  
for Spring 2016

Seasonal Park staff working on general maintenance and winter preparation at  
all parks

Malletts Bay Cemetery renovation is complete and awaiting new sign delivery;  
seasonal clean up at the other cemeteries

Congressman Peter Welch conducted a press conference at Bayside Park in sup-  
port of the Land, Water and Conservation Fund

Colchester Youth Basketball practices have begun

Assisted with Capital Budget Planning and completed Parks and Recreation FY17  
budget and presented to Selectboard

Creation of Winter Program brochure in progress and will be available at the end  
of December

Winter Carnival Committee has begun planning the event

Colchester Pride Volunteers Social was held at Hampton Inn on Nov. 6

Working with State of Vermont ACT 250 regulators to obtain permit for Village  
Park recreational trail

Basketball is still in need of volunteer coaches! If you would like to help with a great  
am and have fun doing it, give Mike a call at 264-5640.

ore information about the Parks and Recreation Department, please visit [colchestervt.gov/recreation](http://colchestervt.gov/recreation)  
or call (802) 264-5640.

Read more town news  
online:  
[www.colchestersun.com](http://www.colchestersun.com)

# Burnham Memorial Library

## BOOK REVIEWS



### Circus Mirandus

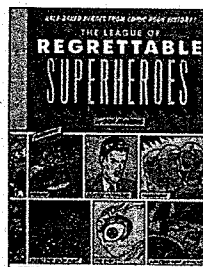
by Cassie Beasley – Juvenile Fiction, 2015

Reviewed by Hannah Peacock, Youth Services Librarian

Micah Tuttle's parents died in a boating accident when he was only 4, and now the grandfather who raised him is about to die. His horrible Aunt Gertrudis has flown in to take care of matters and plans on bringing Micah back to Arizona with her after Ephraim dies. She is matter-of-fact about this eventuality, while Micah's heart is breaking.

Micah has already faced more in his 10 years on Earth than any young boy should have to deal with. He needs a place to which he can escape. Fortunately, Ephraim has told Micah stories about the magical Circus Mirandus for years, and now Micah and his great new friend Jenny are ready to journey there themselves.

Micah expects to collect on the miracle that the famous magician, the Lightbender, owes his grandpa. But, the Lightbender has other ideas, and Micah will soon learn much about the time when Ephraim was himself young enough to be a patron of Circus Mirandus. A sad and beautiful middle-grade novel about faith, friendship, love and adventure. Recommended for ages 8-12.



### The League of Regrettable Superheroes

by Jon Morris – Adult Non-Fiction, 2015

Reviewed by Josh Muse, Adult Services

Since the dawn of superheroes in the 1930s, comic book writers have been doing their best to create interesting and appealing characters. Unfortunately, their audience is a fickle one – for every Batman (or even Aquaman), there are hundreds of heroes who never quite find success.

In his book, Morris focuses on some of the strangest of these semi-forgotten failures, organized by time period. We meet Bozo the Iron Man, an ever-smiling robot overseen by remote control; Jigsaw, a badly injured astronaut whose body is replaced with puzzle pieces by aliens; and Squirrel Girl, who is accompanied by a group of rodent sidekicks.

In each write-up, we discover the character's origins, general themes, typical villains (often just as colorful), and more. Beyond that, Morris gives enough context to each entry that the book works as a good introduction to the history of American comics.

## RAKING IT IN

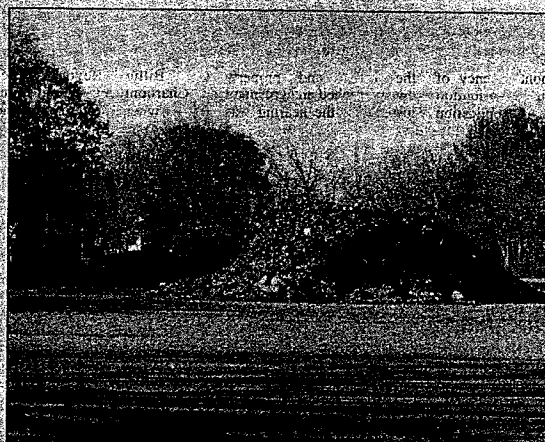


Photo courtesy of Colchester Conservation Commission

The town of Colchester's annual leaf drop earlier this month netted more than double the amount of leaves brought in last year, according to local officials.

The leaf collection weekend was held Nov. 7-8 at Airport Park. It was an opportunity for residents to drop off leaves and pumpkins at no charge. Leaves bagged in biodegradable paper bags were allowed in the leaf pile but leaves in plastic bags had to be dumped out as the plastic bags do not decompose. This year, 14 40 cubic-yard loads – a total of 105 tons of leaves – were hauled to Green Mountain Compost in Williston to be turned into compost for sale in bulk and by the bag at local garden centers.



**From:** Lee Tuure <[ltuure@cswd.net](mailto:ltuure@cswd.net)>

**Sent:** Tuesday, December 1, 2015 11:49 AM

**To:** Floyd Sheesley

**Cc:** Tom Moreau; Brian Wright; Dan Goossen; Maintenance Facility

**Subject:** Town of Colchester - Leaves

Floyd,

It is confirmed that this year's leaf collection event had 14- 40cy loads totaling 105.79 tons.

FYI - I have compiled the historical data of this event on the attached a spreadsheet.

Lee Tuure

Operations Manager

Chittenden Solid Waste District

(802) 872-8100 ext. 212

(802) 878-5787 fax



please don't print this e-mail unless you really need to

## **Minimum Measure 3**

### **Illicit Discharge Detection and Elimination**

#### Attachments:

1. Information and records relating to the Town's IDDE Program
2. IDDE information provided to the Colchester Community Development Office for distribution to the business community
3. Investigations of odors reported by Stone Environmental during field checks for GIS mapping
  - a. Overview Maps
  - b. Catch Basin Log
  - c. Report of Findings
4. Notice sent to Property Owner and Design Engineer for sampling results at monitoring location CP1398 (Westbury MHP)



**2015**

<i>Location</i>	<i>ID#</i>	<i>Date</i>	<i>Flow</i>	<i>pH</i>	<i>OB</i>	<i>E. Coli</i>	<i>Notes</i>
Lexington Road	6 / CP1397	11/22/2015	Med	7.4	Neg	2	
112 Wyndham Road	7 / CP1399	11/22/2015	No	7.4	Neg	<1	
Coventry Road	8 / CP1398	11/22/2015	Med	7.4	Neg	>2400	Second reading on 12.02.15 of >2420
196 Liberty Lane	11 / CP1402	11/22/2015	Med	7.4	Neg	5	
122 Foreman Drive	18 / CP1428	11/22/2015	No	6.8	Neg	<1	No new erosion
12 Woodrose	5 / OC1483	11/22/2015	Dry				
Severance Road	48 / CP1391	11/22/2015	Dry				
Young Street		11/22/2015	Dry				
Opposite International S	B3-016	11/22/2015	Low	7.4	Neg	160	
Between Moorings & Sho	B3-017	11/22/2015	Dry				
Moorings Baffle Box	B3-018	11/22/2015	High	7.6	Neg	130	Very active flow
1086 E. Lakeshore Drive	C2-001	11/22/2015	Med	8.2	Neg	<1	
1063 E. Lakeshore Drive	C2-002	11/22/2015	Dry				
E, Lakeshore Drive	C2-003	11/22/2015	Dry				
1277 E. Lakeshore Drive	C2-004	11/22/2015	Med	8.2	Neg	<1	
Lefevre's	C2-005	11/22/2015	No	7.4	Neg	10	
230 Stone Drive	C2-006	11/22/2015	Dry				
230 Stone Drive	C2-007	11/22/2015	No	7.2	Neg	<1	
Tower Ridge	C3-002	11/22/2015	Dry				No change in bank erosion
Everbreeze	C3-003	11/22/2015	Low	7.2	Neg	<1	Still in need of repair
Blakely Road	C3-004	11/22/2015	No	7.4	Neg	13	
Opposite Williams Road	C3-005	11/22/2015	Dry				Not enough to sample
Opposite Williams Road	C3-006	11/22/2015	Dry				
Acorn Lane - Upper	C3-018	11/22/2015	Dry				
Acorn Lane - Lower	C3-019	11/22/2015	Med	8.0	Neg	25	Same debris from 2014
Champlain Drive	C3-021	11/22/2015	Dry				
118 Orchard Drive	C3-025	11/22/2015	Low	7.4	Neg	<1	
Route 2 & 7 (Shaws)	C4-015	11/22/2015	Dry				
Shaw's 1	C4-017	11/22/2015	No	8.0	Neg	1	
Hampton Inn / I89 Ramp	C4-018	11/22/2015	No	7.6	Neg	820	
Shaw's 2	C4-019	11/22/2015	No	8.0	Neg	9	
Main Street	D3-010	11/22/2015	Dry				
Fort Ethan Allen	D4-001	11/22/2015	X				
Fort Ethan Allen	D4-003	11/22/2015	Med	7.2	Neg	2	Flow bypassing piping

X = Not accessible

Tower Ridge

No significant change in the gully on Tower Ridge from this year's weather activity and drainage.

From: Steffen Parker  
Sent: Friday, July 17, 2015 11:33 PM  
To: Heidi  
Cc: Jennifer Turmel; Bryan Osborne; [gcuttita@colchestervt.gov](mailto:gcuttita@colchestervt.gov)  
Subject: RE: Thayer Beach 7/16/2015

Heidi,

Greetings and thanks for your note.

The gentlemen who were working there repairing the swim ropes (they were damaged by a cruiser that floated free overnight) work for maintenance and would not be a part of the testing or notification process.

Testing is done early on Monday & Wednesday, but because the test takes 24 hours to run and it takes time for the samples to get to the lab, start the test, read the results, etc., we usually do not receive notification until after 10 AM on Tuesday & Thursday, thus the delay in posting the signs.

And because the sampling is only one of several jobs I have, I do not have the opportunity to post the numbers received after 10 AM on Tuesday & Thursdays until I get home late each of those evenings, with Thursdays being especially hard as I do not get home until almost 10 PM.

Because of the delays inherent in this process, the Parks & Rec staff do their best to post the signs as soon as we are made aware of high readings.

In general, we get high readings after a significant rain event and, depending upon how much rain and how long the dry spell was that preceded it, it takes a day or two for the levels to drop down again.

Thanks for your interest - STEF

\*\*\*\*\*

Steffen Parker AKA Stef the Water Quality Guy Water Quality Coordinator Town of Colchester Blakely Road Colchester, VT 05446

Stormwater Hotline: 802.264.5628

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From: Heidi <[heididinco@yahoo.com](mailto:heididinco@yahoo.com)>  
Sent: Friday, July 17, 2015 8:32 AM  
To: Steffen Parker  
Subject: Thayer Beach 7/16/2015

Good Morning Steffen,

We went to Thayer Beach yesterday morning to swim. We checked the website in the morning before we left and met there around 10 am.

We were very bummed the beach was closed.



We did notice a few things and I just wanted to mention it for future reference.

There were guys working with the buoys in the morning while we were swimming. They left the area and didn't mention the ecoli levels to us. (This would have stopped us from swimming).

The woman came down with the signs at 11am, once she was there we checked the website. It was updated as of a few minutes before 10 am. Is there normally an hour delay? What time is the testing done?

I also have noticed that the testing data still hasn't been populated in the online form. I would like to know what the levels were.

Thank you so much for listening to my concerns!

I appreciate your efforts, I am sure there is more involved in your efforts than I can imagine.

I look forward to hearing from you.

Heidi Dinco  
Sent from my iPhone

**From:** Steffen Parker  
**Sent:** Monday, July 20, 2015 11:55 AM  
**To:** megs1951  
**Cc:** Bryan Osborne  
**Subject:** RE: Water testing...Colchester Point

Linda,

Greetings. The test done on our local water samples is designed to detect E.Coli, a bacteria whose multiple strains do not all cause disease or discomfort in humans (some are actually beneficial). A few E.Coli bacteria do cause gastrointestinal infections, but their real purpose in testing is that their presence also indicates the presence of other bacteria that also cause stomach discomfort.

That test takes 24 hours under incubation conditions, so there isn't a version that one can do at home, nor is there one that takes less than 24 hours (although there are several groups working on a faster version).

The visibly dirty water that you are experiencing on Colchester Point this year are due to all of the factors you noted; high water level this late in the summer, significant rainfall in June (more than twice the average), that rainfall coming in large bursts rather than steady soaking, and the ever changing landscape of Vermont up river and down lake from your location.

Adding to that is the exposure Colchester Point has to the general flow of the Broad Lake and its proximity to the mouth of the Winooski River. All of that 'brown' water coming out of the Winooski each time we have lots of rain up river (today, because of the storms in central Vermont last night, it's dark chocolate brown) is sweep northward once it enters the Broad Lake and if the wind is from the Northwest (as it is just after such a rain event due to the cold front that came through causing the storms to begin with and then changing the wind direction as it clears out the hazy, hot and humid air), that 'brown' water drops its sediment (and other debris) into the curl formed by Delta Park to the south and Colchester Point to the north. As the Broad Lake continues to push north, it slowly pulls that debris up that curl from the park to the point until it eventually (aided by wind changes, boat traffic, etc.) pulls it out in the center of the lake and pushes it to Canada.

Visibly dirty water is unpleasant to look at and recreate in, but it does not necessarily indicate the presence of any pathogens harmful to humans. Given the length of time that the test requires, the multiple aspects of water movement in the curl by the point, and always constant potential for waterfowl's temporary contribution to high E.Coli readings, a test of the water off Colchester Point would be of no value in determining if the water there at any point is unsafe. A high test reading would only indicate that the water in that sample, taken at that time and place, had E.Coli in it.

I sampled there in 2004 & 2005 on a twice-weekly basis, taking the sample from the shared access between the camps in the 2100 Colchester Point Road vicinity. While there were some

high readings then, none of the 2004 readings were above the current federal standard of 235 CFU. The readings in 2005 did include several that were above that standard, but each time, they corresponded with high readings at other sampling locations that are directly tied to inflows (Smith Hollow, Crooked Creek) indicating that those samples were taken soon after a significant rain event.

In general, you are safe swimming 24 hours after a rain event; swimming in deeper rather than shallower water; and not ingesting water (E.Coli only affects humans if swallowed).

Sorry for the length of this enote, but I hope it answers your questions.

Have a great summer - STEF

\*\*\*\*\*

Steffen Parker AKA Stef the Water Quality Guy  
Water Quality Coordinator  
Town of Colchester  
Blakely Road  
Colchester, VT 05446

Stormwater Hotline: 802.264.5628

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**From:** megs1951 <megs1951@aol.com>  
**Sent:** Saturday, July 18, 2015 10:47 PM  
**To:** Steffen Parker  
**Subject:** RE: Water testing...Colchester Point

Thanks for the response Steffen,  
We all have concerns about how dirty the water has been and the abundant "mulch type matter " that is along the shoreline and on the floor of the lake. We assume it's washed around the points from sandunes, which had a huge problem last summer.  
We also are aware that much of this has been caused by the high lake levels and all the rain and wind the month of June.  
I was just wondering, if we wanted to test the water, could we? Is there a kit or something we can get from you and would the town send it out for testing  
Thanks..hope you had a good weekend.  
Linda Ready

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On Jul 17, 2015 11:23 PM, Steffen Parker <[SParker@colchestervt.gov](mailto:SParker@colchestervt.gov)> wrote:  
Linda,

Greetings. We no longer do regular sampling of the water on Colchester Point for several reasons, one of which you noted, that you are on the broad lake where the water changes constantly. The reason we sample at the locations currently being used are either 1) they are town-owned public beaches (Bayside and Rossetti) or 2) there is a significant inflow nearby whose condition would affect water quality in a concentrated area and should be monitored for any changes. Colchester Point, besides being on the broad lake, is not either.

Are you concerned because of some activity there, illness among those who swim there, visual changes in the water, plant life, aquatic wildlife there?

Let me know... STEF

\*\*\*\*\*

Steffen Parker AKA Stef the Water Quality Guy  
Water Quality Coordinator  
Town of Colchester  
Blakely Road  
Colchester, VT 05446

Stormwater Hotline: 802.264.5628

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**From:** megs1951 <[megs1951@aol.com](mailto:megs1951@aol.com)>  
**Sent:** Wednesday, July 15, 2015 10:06 PM  
**To:** Steffen Parker  
**Subject:** Water testing...Colchester Point

Hi.. I live on Colchester Point and wonder if the town checks the water quality out here? I know in years past it has been checked.

If not,would you?

I am not too concerned about blue-green algae, as we are on the broad lake..

Thanks,

Linda Ready

## Illicit Discharge Information

Based upon population density, Colchester Vermont has been designated as an operator of a Phase II regulated Small Municipal Separate Storm Sewer System (MS4), and is required to develop a storm water management program to meet the conditions of its National Pollutant Discharge Elimination System (NPDES) permit. The development of an Illicit Discharge Detection and Elimination Plan is one of six minimum control measures that are required within the program.

### What is an "Illicit Discharge"?

Federal regulations define an illicit discharge as "...any discharge to an MS4 that is not composed entirely of storm water...." with some exceptions. These exceptions include discharges from NPDES-permitted industrial sources and discharges from fire-fighting activities. Illicit discharges are considered "illicit" because MS4s are not designed to accept, process, or discharge such non-storm water wastes.

### Why are Illicit Discharge Detection and Elimination Efforts Necessary?

Discharges from MS4s often include wastes and wastewater from non-storm water sources. Illicit discharges enter the system through either direct connections (e.g., wastewater piping connected to storm water drains) or indirect connections (e.g., spills or disposal of used paint, oil, etc., into a storm water drain.) The result is untreated discharges that contribute high levels of pollutants, including heavy metals, toxics, oil and grease, solvents, nutrients, viruses, and bacteria to receiving water bodies. Pollutant levels from these illicit discharges have been shown in EPA studies to be high enough to significantly degrade receiving water quality and threaten aquatic, wildlife, and human health.

### Colchester's Storm Water Management Program

The Town's Storm Water Management Program will include the development of an Illicit Discharge Detection and Elimination Plan, as well as, an Illicit Discharge Ordinance. You are encouraged to provide you valuable input into the development of these initiatives. The overall program also contains a strong education component. This education bulletin is one example of the implementation of these efforts. For further information, please visit the following links:

- U.S. Environmental Protection Agency [www.epa.gov](http://www.epa.gov)
- Vermont Agency of Natural Resources [www.anr.state.vt.us](http://www.anr.state.vt.us)

Or contact:

- Town of Colchester, Department of Public Works [bosborne@town.colchester.vt.us](mailto:bosborne@town.colchester.vt.us)

#### Sources of Illicit Discharge

Sanitary wastewater  
Effluent from septic tanks  
Car wash wastewaters  
Improper oil disposal  
Radiators flushing disposal  
Laundry wastewaters  
Spills from roadway accidents  
Improper disposal of auto and household toxics

## Town of Colchester Department of Public Works Presents:

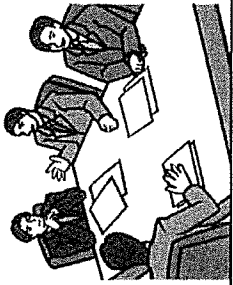
### An Informational Bulletin for Local Business



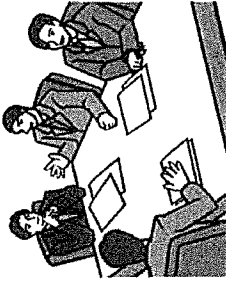
## U.S. EPA Storm Water Phase II Final Rule Illicit Discharge Detection And Elimination Minimum Control Measure

".....improve the overall quality of life within the community through the development of a superior infrastructure that promotes and encourages planned responsible commercial, industrial and residential growth in a manner that preserves and enhances our environment and natural resources."

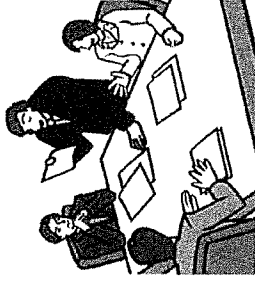
Colchester Public Works  
Mission Statement



1. Ok folks, Corporate says we have some water quality issues to deal with



2. So Bob, what is an illicit discharge anyway?



3. Bill, it's basically any discharge that is not composed entirely of storm water



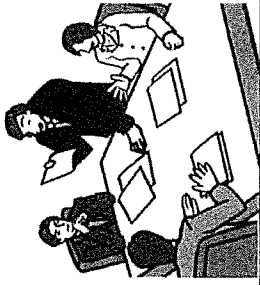
4. What does that mean?



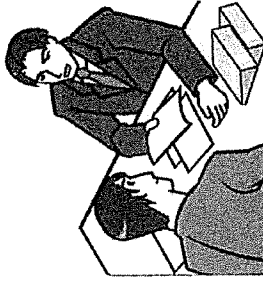
5. Well Bill, it could be things like sanitary waste, improper oil disposal or industrial cleaning products.



6. Bob, how do these discharges happen?



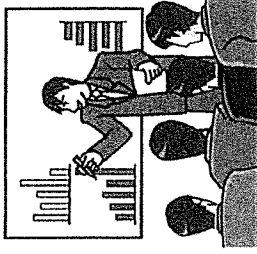
7. Bill, pollutants can enter the storm water system either through direct pipe connections, or spills collected by drain outlets.



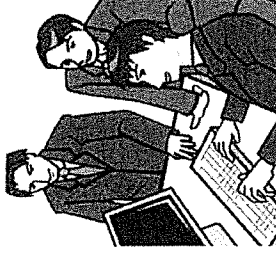
8. So what's the big deal Bob, doesn't it all get treated at the plant?



9. No Bill, storm water doesn't go to treatment plants. It goes directly to rivers and lakes



10. Studies have shown that these pollutants can damage aquatic, wildlife and human health.



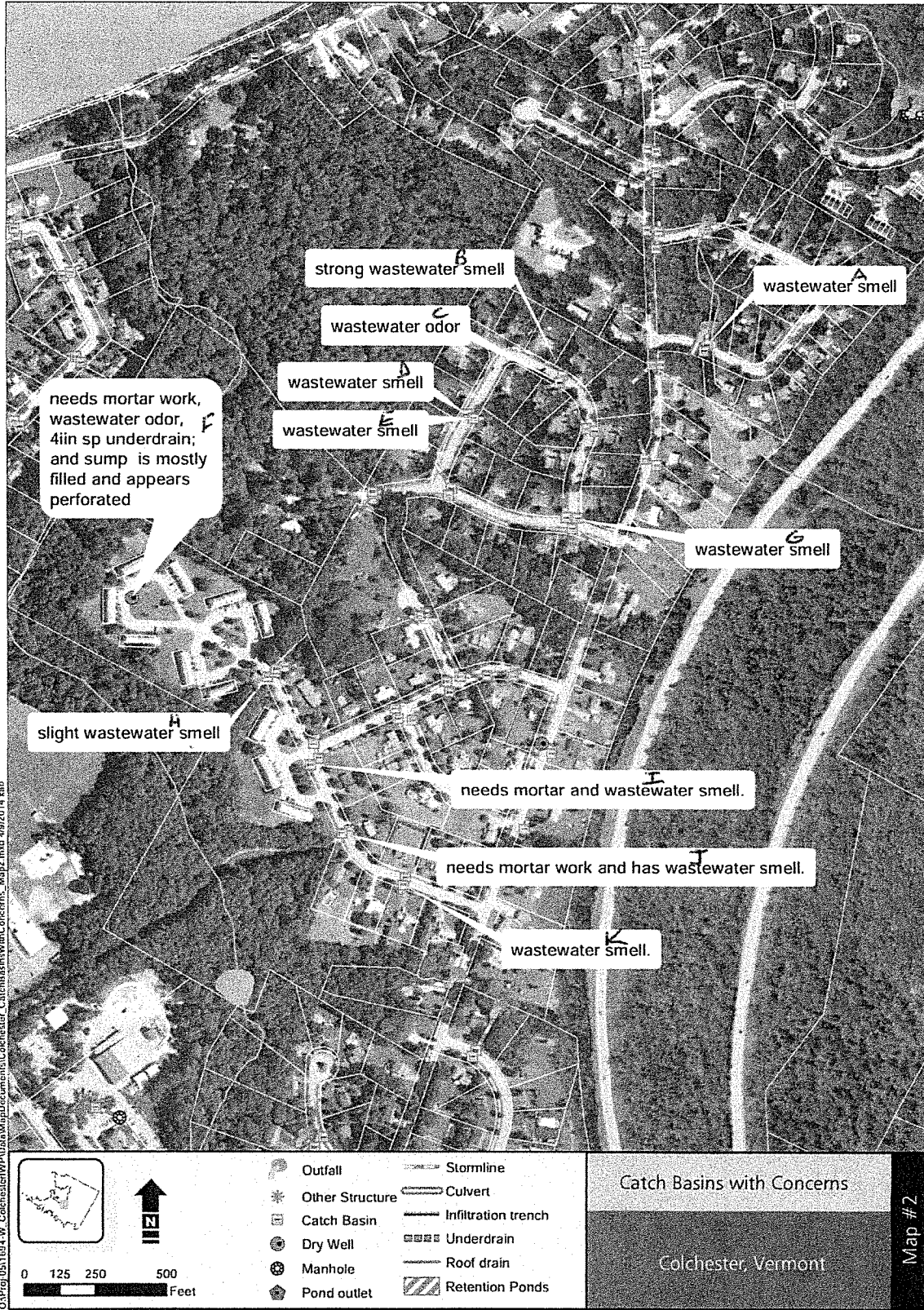
11. Hmm, environmental damage, that's not good for business



12. Ok, people, lets get to work. I want a plan on my desk by Friday to prevent illicit discharges from our company

Stone  
 Colchester  
 Bucklebury area

map #1



Q:\Proj\0511684-W Colchester\WP\Data\MapDocuments\Colchester\_CatchBasinsWithConcerns\_Map2.mxd 4/9/2014 kab

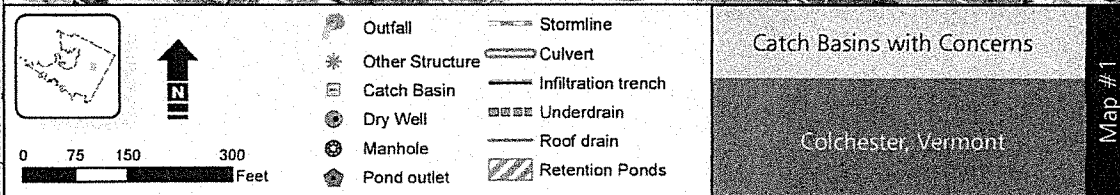
Sources: Parcel Boundaries: Town of Colchester; Stormwater Infrastructure: Town of Colchester and Stone Environmental; Hydrography: NHD; Administrative Boundaries: VCGL; Imagery: Esri



Map # 2



O:\Proj\1511694-W Colchester\Map\Map\Documents\Colchester CatchBasinsWithConcerns Map1.mxd 4/2/2014 kab



Sources: Parcel Boundaries: Town of Colchester; Stormwater Infrastructure: Town of Colchester and Stone Environmental; Hydrography: NHD; Administrative Boundaries: VCGI; Imagery: Esri



<b>MAP</b>	<b>STREET LOCATION</b>	<b>Inflow?</b>	<b>Soil Beneath</b>
1-A	43 Joey Drive	No	No
1-B	102 Blackberry Circle	No	Yes
1-C	113 Blackberry Circle	No	Yes
1-D	182 Blackberry Circle	No	Yes
1-E	219 Blackberry Circle	No	Yes
1-F	374-1 Julie Drive	No	Yes
1-G	20 Blackberry Circle	No	Yes
1-H	235 Julie Drive	No	Yes
1-I	144 Julie Drive	No	Yes
1-J	108 Julie Drive	No	Yes
1-K	51 Julie Drive	No	Yes
2-A	336 Village Drive (empty lot)	2 of 5 pipes	No
2-B	324 Village Drive (cul-de-sac)	4 of 4 pipes	No
<b>MAP</b>	<b>NOTES</b>		
1-A	Clear pool up to bottom of inflow pipes		
1-B	Clear pool up to bottom of inflow pipes		
1-C	Clear pool up to bottom of inflow pipes		
1-D	Clear pool up to bottom of inflow pipes		
1-E	Clear pool up to bottom of inflow pipes		
1-F	Clear pool well below level of inflow pipes		
1-G	Clear pool up to top of inflow pipes		
1-H	Clear pool up to bottom of inflow pipes		
1-I	Clear pool up to bottom of inflow pipes		
1-J	Clear pool up to bottom of inflow pipes		
1-K	Clear pool up to middle of inflow pipes		
2-A	Clear pool up to bottom of inflow pipes		
2-B	Clear pool up to bottom of inflow pipes		

**TOWN OF COLCHESTER**  
***CATCH BASIN INSPECTIONS***  
**Infrastructure Inventory**  
**Integrated Water Resources Management Program Task 1**  
**SPRING – SUMMER 2014**

**ADDRESSES (all in Colchester, VT):**

Julie Drive (5 locations); Fox Run (1 location); Blackberry Circle (4 locations); Joey Drive (1 location); Village Drive (2 locations);

**INFRASTRUCTURE:**

Street level storm drains; steel grate covers; concrete lined; various depths, inflows and outflows

**REQUEST:**

As part of the Infrastructure Inventory; Integrated Water Resources Management Program: Task 1 report prepared by Stone Environmental, Inc. in collaboration with Forcier, Aldrich & Associates, the locations noted above were identified as having a wastewater smell during their inspections held during the spring & summer of 2009. That indication ranged from 'wastewater smell' to 'obvious wastewater contamination', but these indications were only made on the metadata that accompanied the report, not in the body of the report itself.

When these concerns were made known to the Town of Colchester, supplemental inspections were initiated.

**CONCERNS / RATIONALE:**

A significant amount of time has transpired since these observations were made. As well, we do not know under what conditions they were made. Both of these factors may make replicating the observations very challenging and may require multiple visits to each site to assure that the issues initially raised are still present.

Establishing whether these observations remain current is essential before taking any further actions in this regard; actions that would include the determination of sources for the pollutants involved.

**PROPOSED PROTOCOL:**

- Review of septic system permits for the areas around the identified storm drains
  - The review will look for any information pertinent to this process and will note such in the report generated
- Initial observation of listed storm drains done within 36 hours of significant rain event on all sites
  - Record property locations adjacent to the storm drain
  - Check for wastewater smell
    - If present, collect sample for E.Coli analysis
    - If present, run an Optical Brightener test (5 day rotation)
- Secondary observation done during dry spell (60 hours + of dry weather) on all sites
  - Check for wastewater smell
    - If present, there is adequate fluid and this site was not done following the first observation, collect sample for E.Coli analysis
    - If present, there is adequate flow and this site was not done following the first observation, run an Optical Brightener test (5 day rotation)

**REPORT:**

INITIAL OBSERVATION (done on July 16, 2014, with .35 inches of rain in the previous 36 hours): The map locations were identified and each catch basin was opened and examined (except 235 Julie Drive where the grate was not removable). All of the basins had clear water in them and many had collected soil and light debris at the bottom under the water. In each case, the penetration of that soil with a shovel released a gas, likely natural methane from decomposition. No smell was associated with this release of gas.

No evidence of any smell was observed at any of these catch basins. No E.coli samples were taken as a result. No Optical Brightener test were conducted as a result.

**SECONDARY OBSERVATION:** The second observation was not done as the required period of dry weather did not occur in a timely manner during the remainder of the summer of 2014 when personnel was available to complete those observations.

If required (based on the first observation results), an effort will be made to do so during the summer of 2015.

### **CONCLUSIONS:**

Given the time between the 2009 report and these observations, the clustering of the catch basins in specific areas, the amount of decomposing material found in all but one basin, and the lack of any smell now, it is highly unlikely that there is a sewage or septic issue in any of these areas.

### **DOCUMENTATION:**

CatchBasin\_Log.xls: A listing of the street locations along with an indication of the presence of water, the presence of soil at the bottom of the catch basin, and observation notes.

Maps 1, 2, 3: Google maps with the locations identified, numbered and the relative concern indicated.



**Colchester**  
VERMONT

781 Blakely Road • PO Box 55 • Colchester, Vermont • 05446 • 802.264.5500

[www.colchestervt.gov](http://www.colchestervt.gov)

March 3, 2016

Betty Atkins  
289 Coventry Road  
Colchester, VT 05446

Re: IDDE Results

Dear Ms. Atkins:

On November 23, 2015 and December 3, 2015, Steffen Parker, Water Quality Coordinator for the Town of Colchester, took samples from a drain pipe coming out from under the roadway at the bottom of the hill in the Westbury Mobile Home Park's maintenance area (site CP 1398 from the federal listings) and both samples came back with high E.coli readings of over 2,400/100mL (the maximum count that Endyne uses).

The Town would like your cooperation, as well as your engineers, in investigate this issue further to determine the source of the elevated E.coli count and take immediate action to remedy the issue.

You are reminded of your rights under 18 VSA § 126. Please contact the Planning and Zoning Office within 15 days upon receipt of this letter as to the plan you are intending to take at (802) 264-5607 or in person at the Municipal Offices at 781 Blakely Road, so that I know you have received this letter and are taking steps to rectify this issue.

If you have any questions, feel free to contact me at 802-264-5601.

Sincerely,

Denise Johnson-Terk  
Wastewater Official and Health Officer  
Department of Planning & Zoning  
Town of Colchester  
PO Box 55 (781 Blakely Road)  
Colchester, VT 05446  
(802)-264-5601 / F (802)-264-5503  
<http://colchestervt.gov>

## **Minimum Measure 4**

### **Construction Site Storm Water Runoff Control**

#### **Attachments:**

1. Report of land disturbing activities greater than 1 acre, and greater than 5 acres.
2. Letter dated May 29, 2015 documenting site visit and non-compliance issues found for Land Filling Operation at 1662 Main Street



**Colchester**  
VERMONT

781 Blakely Road • PO Box 55 • Colchester, Vermont • 05446 • 802.264.5500

[www.colchester.gov](http://www.colchester.gov)

MEMORANDUM

TO: Bryan Osborne, Director of Public Works  
FROM: Sarah Hadd, Director of Planning & Zoning *SH*  
DATE: March 4, 2016  
RE: Stormwater Reporting Calendar Year 2015

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Please find attached a spreadsheet enumerating projects advanced to construction for the period January 1, 2015 through December 31, 2015 with more than an acre of land disturbance. In calendar year 2015, the Department issued in total 447 permits and conducted 1425 inspections including violation investigations.

Should you need any additional information, including copies of the individual permits, please feel free to contact me directly.

	A	B	C	D	E	F
1	<u>Project</u>	<u>Description</u>	<u>Location</u>	<u>Contact</u>	<u>Acreage Disturbed</u>	<u>Impervious Surface Acreage</u>
2	Gardner Construction	8/10 units	121 Macrae Road. Tax Map 40, Parcel 66	O'Leary - Burke Civil Assoc.	1 to 5 ac.	1.49
3	Delco	nine congregate duplexes totaling 18 units	521 River Road, Tax Map 35, Parcel 1	Lamoureux & Dickinson	1 to 5 ac.	0.96
4	Lot 2 Brentwood Park LLC	9,600 sq. ft. office/warehouse building	Brentwood Drive, Tax Map 17, Parcel 3-2	O'Leary Burke Civil Associates	1 to 5 ac.	0.66
5	REM Development	26,600 sq. ft. respite house	83 Munson Rd., Tax Map 8, Parcel 21	Lamoureux & Dickinson	1 to 5 ac.	1.76
6	St. Michael's College	20,475 sq. ft., 189 bed residential hall	a. 0, 11, 29, 53 and 69 Johnson Avenue Tax Map 19, Parcels 010011, 008001, 009001, 010011 and 010001	Hamlin Engineering	1 to 5 ac.	27



**Colchester**  
VERMONT

781 Blakely Road • PO Box 55 • Colchester, Vermont • 05446 • 802.264.5500

[www.colchestervt.gov](http://www.colchestervt.gov)

May 29, 2015

Ronald Bushey  
1662 Main Street  
Colchester, VT 05446

RE: Property at 1662 Main Street, Tax Map 22, Parcel 168

Dear Mr. Bushey:

Thank you for meeting with Town Staff at the site on May 26th to address the issues associated with erosion control and the Site Plan approval that you received from the Development Review Board granting permission for the fill property.

The following three areas need to be addressed in the next two weeks with regard to erosion control:

1. The silt fence at the bottom of a long, steep slope does not comply with state design requirements. For steep slopes, measures such as silt fencing, coir logs, or silt socks would need to be installed in series along the slope. One alternative method, which will probably work better with a long term filling operation (up to three years), would be to construct an earthen berm upstream of the silt fence with seeding of the top and downstream slope. This would provide a much more stable method for routing flow and detaining sediment at the bottom of the slope. The berm would have to be continually rebuilt as the filling operation proceeds up the slope.
2. An outlet will be needed at the bottom of the slope. Wherever the flow naturally goes or where it is directed by the filling operation should not be crossed with a silt fence. This area must be protected with a gravel/rock check dam. Usually larger stones are used for the bulk of the dam and smaller filter stones are placed on the upstream side to prevent direct bypass.
3. The upper areas recently disturbed will not be filled for some time, so those areas need to receive temporary stabilization with seed and mulch based on state guidelines right away. Any areas that are not going to be graded or constructed on within 30 days must be seeded. This will pay off in the long run because the seed is much less expensive than having to move, regrade, and restabilize areas after they erode.

Town Staff will be out to the site on June 17<sup>th</sup> at 8:00 a.m. for a follow-up site visit. If you are unable to meet them at that time please call me to reschedule.



Page 2  
Mr. Ronald Bushey  
May 28, 2014

In addition to the above noted items there is an additional issue that needs to be addressed which is temporary conveyance of drainage. Depending on how long it's going to be before the channel is constructed, interim measures may be needed. If the channel starts designing its own outlet, a series of check dams will be have to be installed along the slope. As a general rule of thumb, check dams should be spaced based on the height (from bottom of channel to top of weir) and the slope they are being installed on. They should be spaced so the bottom of the upstream check is level with the weir level of the lower check (i.e.: checks will be spaced tighter on steep slopes and wider apart on more moderate slopes.)

If you have any questions on any of the above please feel free to contact Derek Shepardson or Warner Rackley or myself at 264-5604. Thank you for your cooperation and for addressing the issues that have been raised with regards to the erosion control measures and the fill project.

Sincerely,



Lisa Riddle  
Zoning Administrator

## **Minimum Measure 5**

### **Post-Construction Storm Water Management in New Development and Redevelopment**

#### **Attachments:**

1. Report of land disturbing activities that resulted in more than 1 acre of impervious surface.



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MEMORANDUM

TO: Bryan Osborne, Director of Public Works  
FROM: Sarah Hadd, Director of Planning & Zoning *SH*  
DATE: March 4, 2016  
RE: Stormwater Reporting Calendar Year 2015

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Please find attached a spreadsheet enumerating projects advanced to construction for the period January 1, 2015 through December 31, 2015 with more than an acre of land disturbance. In calendar year 2015, the Department issued in total 447 permits and conducted 1425 inspections including violation investigations.

Should you need any additional information, including copies of the individual permits, please feel free to contact me directly.

Town of Colchester - Projects advanced to construction

Calendar Year 2015

A	B	C	D	E	F
<u>Project</u>	<u>Description</u>	<u>Location</u>	<u>Contact</u>	<u>Acreage Disturbed</u>	<u>Impervious Surface Acreage</u>
1	Gardner Construction	8/10 units	121 Macrae Road. Tax Map 40, Parcel 66	O'Leary - Burke Civil Assoc.	1 to 5 ac. 1.49
2	Delco	nine congregate duplexes totaling 18 units	521 River Road, Tax Map 35, Parcel 1	Lamoureux & Dickinson	1 to 5 ac. 0.96
3	Lot 2 Brentwood Park LLC	9,600 sq. ft. office/warehouse building	Brentwood Drive, Tax Map 17, Parcel 3-2	O'Leary Burke Civil Associates	1 to 5 ac. 0.66
4	REM Development	26,600 sq. ft. respite house	83 Munson Rd., Tax Map 8, Parcel 21	Lamoureux & Dickinson	1 to 5 ac. 1.76
5	St. Michael's College	20,475 sq. ft., 189 bed residential hall	a. 0, 11, 29, 53 and 69 Johnson Avenue Tax Map 19, Parcels 010011, 008001, 009001, 010011 and 010001	Hamilin Engineering	1 to 5 ac. 27
6					

## **Minimum Measure 6**

### **Pollution Prevention/Good Housekeeping for Municipal Operations**

**Attachment:**

1. Sign in sheets and emails regarding Employee Training held at Essex Town Training Center on September 17, 2015.
2. Memo and email documenting MS4 cleaning activities.
3. 2015 MS4 Indicators

## Warner Rackley

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**From:** Pease, Jim <Jim.Pease@vermont.gov>  
**Sent:** Wednesday, July 29, 2015 9:50 AM  
**To:** A.robtoy@stalbansvt.com; Aaron Martin (amartin@essex.org); acostandi@essex.org; Carrie Johnson (satownmanager@comcast.net); Chelsea Mandigo (Chelsea@essexjunction.org); Chip Sawyer (C.Sawyer@stalbansvt.com); Chris Robinson; Dean Pierce (dpierce@shelburnevt.org); Dennis Lutz (DENNIS@essex.org); Digiammarino, Craig; Douglas Campbell; Floyd Sheesley; James Sherard (jsherrard@willistonvt.org); Jay Nadeau; Callahan, Jennifer; Jim Jutras (jim@essexjunction.org); Joe Zingale (rutlandtown@comcast.net); Armstrong, Jon; Jon Leinwohl; Lani Ravin; Laurie Adams (LAdams@burlingtonvt.gov); Linda Seavey (Linda.Seavey@uvm.edu); Lisa Sheltra (lsheltra@willistonvt.org); Maren Hill; Megan Moir (mmoir@burlingtonvt.gov); Bryan Osborne; Peter Wernsdorfer (pmwernsdorfer@winooski.vt.us); Roger Hunt (rhunt@town.milton.vt.us); Sarah Hadd; Tom DiPietro (tdipietro@sburl.com); Warner Rackley  
**Cc:** Dan Albrecht (dalbrecht@ccrpcvt.org)  
**Subject:** Municipal Employee Training-September 17

This year's Municipal Employee Training Session will be Thursday September 17 at the Essex Department of Public Works and Fire Department Training Facility at 188 Sand Hill Road in Essex. Again this year there will be two sessions: 10-11:15 am and 11:30-12:45 pm.

The 2015 training session will be on implementing new municipal green infrastructure and protecting existing green infrastructure in our towns. Low cost examples of practices in place in Chittenden and Lamoille county will be presented. Kim Komer of the Lamoille Natural Resources Conservation District will be the first session speaker and Rebecca Tharp of UVM Seagrant will be the second session speaker.

If you have any questions please let me know. Each session is limited to about 50 so please send me the number of attendees you expect to send and for which sessions. The training is first come first serve until the 100-120 capacity is filled.

Jim

Jim Pease  
Watershed Management Division  
VTDEC  
1 National Life  
Montpelier, VT 05620  
[Jim.Pease@state.vt.us](mailto:Jim.Pease@state.vt.us)  
(802) 490-6116  
[Jim.Pease@vermont.gov](mailto:Jim.Pease@vermont.gov)

MUNICIPAL EMPLOYEES MS4 TRAINING WORKSHOP-ESSEX TOWN  
 TRAINING CENTER-LOW IMPACT DEVELOPMENT  
 10-11:15 & 11:30-12:45 SESSIONS, SEPT 17, 2015

Name

Town/MS4

Scott Smith	Colchester
Loren Ward	Town of Essex
Nick Campagna	Colchester
SOE Tourville	Town of Essex
Eric Barskyamb	Essex
Buzzy Julien	Colchester
Paul Iolue	St. Albans City
Brian Burns	St. Albans City
Chip Sawyer	
Lisa Sheltra	Town of Williston
Larry G. Peter	Colchester
Rick Jones	Essex Jct.
Rick Peet	Williston
MARK Russell	Williston
Ernest Oakes	Town of Sandy
JOHN DEWEY	TOWN OF MILTON
Keith Spaulding	Milton
Chris Shepard	Milton DPW
Ch. Lempore Chris Lempore	Milton DPW
Tom KABUSK	Town of Essex

MUNICIPAL EMPLOYEES MS4 TRAINING WORKSHOP-ESSEX TOWN  
 TRAINING CENTER-LOW IMPACT DEVELOPMENT  
 10-11:15 & 11:30-12:45 SESSIONS, SEPT 17, 2015

Name

Town/MS4

Alan Akey	Colchester
DANE P. MCGLOTH	Colchester
TOM MANNING	Colchester
Byron Hathaway	Putland Town
Jim Jutras	Essex Jct
PAUL LATREILLE	Williston
Fred Bauer	Williston
Rick Wilson	Williston
ROGER BOYER	11 21
Mike Burr	ES
Anthony Trane	ES
Ken Nichols	Colchester
Marvin Siple	Colchester
Jamie McMahon	ESPW
Floyd Sheesley	Colchester
Primo	Essex
Jeff Sinclair	Colchester
Bob Miller	ESSEX
Warner Rackley	Colchester
Chris W.	Colchester



MUNICIPAL EMPLOYEES MS4 TRAINING WORKSHOP-ESSEX TOWN  
 TRAINING CENTER-LOW IMPACT DEVELOPMENT  
 10-11:15 & 11:30-12:45 SESSIONS, SEPT 17, 2015

Name

Town/MS4

Cory Baldwin	Village of Essex
Ronald Bunt	Village of Essex
Tony Wilber SBS	Village of Essex
Phil Rijk	Town of Essex
Jerry Lesage	Town of Essex
Ken Becker	Town of Essex
Madeline Brumberg	South Burlington
Tom DiPietro	South Burlington
Dave Wheeler	South Burlington
Nathan Cavaller	Town of Milton
Janice Goddette	So. Burl.
Craig Lamberson	So. Burl.
William Sanderson	Town of Milton
Robert Whitten	Town of Essex
Dan Roberge	" " "
Brian Jones	Town of Essex
Leslie Benoit	So Burl SW
Bart Sherman	Town of Milton
ADAM CATE	CITY OF S. BURL.
ANDREW NOONAN	CITY OF S. BURL.

MUNICIPAL EMPLOYEES MS4 TRAINING WORKSHOP-ESSEX TOWN  
 TRAINING CENTER-LOW IMPACT DEVELOPMENT  
 10-11:15 & 11:30-12:45 SESSIONS, SEPT 17, 2015

Name

Town/MS4

Jim Sasso	Milton
Nicholas Borek	Milton
JAMES Bushay	Milton
Roger Hunt	Milton
Chelsea Mandigo	Village Essex Junction
GREG MANNING	SBPW
Mike McElrath	SBPW
Bill Morin	SBPW
Pat Adams	SBPW
TODD GREGORY	SBPW
DAN McENIR	SBPW
Willie LeBeau	SBPW
Bob Cota	SBPW
Joe Cota	SBPW
Don Williams	SBPW
Jon Armstrong	VTrans
Tyler Hanson	VTrans
Travis Mott	BTU Airport
Chris Poplawski	BTU Airport
Chris Robinson	Shelburne

## Town/MS4

[illegible]

# Memo

**To:** Warner Rackely, Assistant Director of Public Works

**From:** Floyd Sheesley, Operations Manager

**Cc:**

**Date:** March 16, 2016

**Re:** MS4 Permit information

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We currently have 314 catch basins and 58 outfalls associated with 35 Stormwater Permits that are inspected at least annually.

Catch basin cleanings totaled approximately 23 cubic yards of material from approximately 242 catch basins, and the town collected approximately 147 cubic yards of street sweepings last spring and approximately 64 cubic yards of leaf debris in the fall.

<b>2015 MS4 INDICATORS</b>	<b>MS4</b>
<b>CATCH BASIN CLEANING</b> CYDS or #BASINS CLEANED (ESTIMATE 1 TON/CY and .6 CYDS/CB )	<b>23 CY</b>
<b>STREET SWEEPING</b> (DIRT&LEAVES) CYDS OR #ROAD MILES SWEEP (ESTIMATE .17TONS/MILE and 1 TON/CY)	<b>211 CY (147 CY-Dirt &amp; 64 CY-Leaves)</b>
<b>GREEN-UP &amp; STREAM CLEAN-UPS</b> #TONS OF TRASH DISPOSED (CSWD-just trash not metals or tires)	For <b>municipalities</b> I get this data from CSWD.
<b>HAZ WASTES DISPOSED</b> OR REUSED LBS (CSWD JULY-JULY)	For <b>municipalities</b> I get this data from CSWD.
<b>#STORMWATER OUTFALLS SURVEYED</b>	<b>58</b>
<b>#CATCHBASIN INSPECTIONS</b>	<b>242</b>
<b>#STORM DRAINS MARKED</b>	<b>57</b>
<b>#ILLCIT DISCHARGES DETECTED</b>	<b>0</b>
<b>#ILLCIT DISCHARGES ELIMINATED</b>	<b>0</b>
<b>#CONSTRUCTION EROSION SITE INSPECTIONS</b>	<b>1,425</b>
<b>#SITE PLAN REVIEWS FOR SW MANAGEMENT</b>	<b>447</b>
<b>DOLLARS SPENT ON STORMWATER PROGRAM</b>	<b>\$370,000</b>
<b>MUNICIPAL EMPLOYEE TRAINING (HRS)</b>	<b>16 Hours (13 Each @ 1.25 Hours)</b>
<b>#PET WASTE BAGS DISTRIBUTED</b>	<b>24,000</b>
<b>CHANNEL PROTECTION VOL. CREATED (CUBIC FEET OR ACRE-FT)</b>	I can get this <b>SW impaired waters indicator</b> if the project is permitted as long as I have the permit number. If no permit then I would need an estimate from the MS4.